Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL
OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR
Holden Energy Corporation

3. ADDRESS OF OPERATOR
Lincoln Center, Suite 600, Ardmore, OK 73401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
330' FNL 330' FEL NE ¼ NE ¼
At proposed prod. zone
Same

5. LEASE DESIGNATION AND SERIAL NO.
14-20-H62-4376

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Ute Indian Tribe

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Ute 13

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
~~Green River~~/Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 13, T4S, R1E, USB&M

12. COUNTY OR PARISH
Uintah

13. STATE
Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
Approximately 12.0 miles South of Fort Duchesne

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
330'

16. NO. OF ACRES IN LEASE
80

17. NO. OF ACRES ASSIGNED TO THIS WELL
80

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
1000'

19. PROPOSED DEPTH
10,000' Wasatch

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

22. APPROX. DATE WORK WILL START*
7/15/88

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 ¼"	10 3/4"	40#/ft.	350'	150 sacks Class "H"
6 ¼"	4 1/2" liner back to 6800'	26#/ft.	7000' 1000'	360 sacks Class "H" +12% gel

RECEIVED
JUL 15 1988
DIVISION OF
OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Uintah Engineering and Land Surveying for Holden Energy Corporation

SIGNED Laurence C. Kay TITLE Consultant DATE 7/8/88

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Bell SAFETY

APPENDIX # 4

EMERGENCY PHONE NUMBERS

DUCHESNE COUNTY HOSPITAL	801-722-4691
LIFE FLIGHT L.D.S. HOSPITAL S.L.C. UT.	801-321-1234
	801-321-1911
AERA DOCTORS	
DR. Terry Buxton	801-722-2211
DR. Keith Evans	801-722-4652
AMBLANCE SERVICE	
Ute Indian Tribe	801-722-2911
Roosevelt Amblance	801-722-4558
UINTAH COUNTY SHERIFF	801-789-2511
	801-781-0770

Bell SAFETY

APPENDIX # 5

KUEL: 920 Radio Station	Vernal UT.	801-789-0920
	Roosevelt UT.	801-722-0920
Roosevelt Municipal Airport	Poleline Rd. Roosevelt UT.	801-722-4741

P. O. Box 234 • 303-675-5274 • Rangely, CO 81648

Bell SAFETY

APPENDIX #6

B.L.M. (VERNAL) 801-789-1362

MR. Cody Hansen
MR. Jerry Kenczka
MR. Ed Rorsman

E.P.A. Air Quality Control S.L.C. UT. 801-538-6108

Recommended Guidelines for Training Personnel on Drilling Locations Where Hydrogen Sulfide Gas May Be Encountered

LAND OPERATIONS TRAINING PROCEDURES

When drilling in an area where known or suspected hydrogen sulfide gas (H_2S) may be encountered, definite training requirements must be carried out. The following training guidelines will provide precautions for personnel and equipment for a successful operation. The procedures will apply on any oil or gas drilling location. These guidelines meet requirements of many government regulatory agencies.

PHASE I. ARRIVAL AT WORKSITE

At the drilling location, the following preliminary steps should be taken:

A. The employees should be introduced to their driller or supervisor.

B. The employees will be introduced to the supervisor in charge of the operation.

C. The employees will be introduced to the person in charge of training.

D. They should be informed of the current well condition in relation to the drilling in progress.

E. Safety rules should be explained to all personnel.

PHASE II. INTRODUCTION TO HYDROGEN SULFIDE CONSIDERATIONS

A. Explain the properties of H_2S to new or transferring employees and the potential hazards of working in an environment of hydrogen sulfide gas.

B. Long hair, large bushy sideburns, full beard, false teeth or contact lenses can interfere with the function of the mask. Eardrums should be checked for perforations. Any prospective employee with any of these impairments to mask operation must agree to abide by the company rules and make any corrections needed to comply with the H_2S equipment regulations.

C. The employee should review a copy of the following:
   1. Company instructions on H_2S and SO_2.
   2. Toxicity table and properties of both H_2S and SO_2.
   3. Name or title of immediate supervisor and outline of training procedures.

D. An H_2S training film or slide/tape should be available to show the employee during his orientation.

E. At the conclusion of the indoctrination, the new or prospective employee should sign a form stating that he understands and agrees to abide by the company requirements. This form should be kept for future reference.

PHASE III. H_2S PROGRAM BRIEFING

The person in charge of training should explain the following:

A. The H_2S contingency plan. This is a written document outlining the requirements, procedures and instructions for drilling a hydrogen sulfide well. This plan specifically elaborates on the type of well and drilling safety equipment. It describes the procedures to be followed during H_2S encounter, the type of training that will be performed and an evacuation plan. This booklet shall be located in an area accessible to all personnel and reviewed by each individual. Questions concerning the material in this booklet should be brought to the attention of the individual's supervisor.

B. H_2S sensing and monitoring equipment (including personal monitors). It should be explained in the training program that H_2S detection systems are installed on the location to provide maximum safety to all personnel. It should be emphasized that a fixed automatic system provides continuous detection throughout the day. The portable units are used for random sampling to detect H_2S. Since each location is different, the following is an outline that can be used in training personnel relative to H_2S detection systems.

   1. **Fixed Automatic Manned Detection System**
      a. Location of monitor
      b. Operating procedure
      c. Describe the alarms and warning lights
      d. Location of lights
      e. Location of alarm
      f. Location of sensors

   2. **Portable Detection Device**
      a. Stored location
      b. Operating procedures

   (The sense of smell should never be used in detecting presence of hydrogen sulfide.)

D Respiratory equipment [illegible]ratory equipment is one of the major facili[illegible]n providing personnel safety Each individual should be totally familiar with each unit available on the drilling location. He should understand the procedure for operation, limitations, and maintenance. Since each individual company uses different types, brands, and placement of equipment and since rig designs differ, the following outline can be used to prepare a training program for personnel.

1. **Rescue Units**
   a. Location of units
   b. Operating procedures of unit
   c. Donning units
   d. Maintenance and storage of unit
   e. Changing air cylinders
   f. Recharging air cylinder

2. **Work Unit**
   a. Location of units
   b. Operating procedures of unit
   c. Donning unit
   d. Maintenance and storage of unit
   e. Changing air cylinder
   f. Recharging air cylinder

3. **Escape Units**
   a. Location of units
   b. Operating of unit
   c. Donning unit
   d. Maintenance and storage of unit
   e. Recharging air cylinder

4. **Cascade Recharging System**
   a. Location of units
   b. Operating procedures of unit
   c. Maintenance and storage of unit
   d. Recharging air cylinder

5. **Cascade Long Duration System**
   a. Location of units
   b. Operating procedures of unit
   c. Limitations of unit
   d. Regulator of unit
   e. Maintenance and storage of unit

6. **Air Stations**
   a. Location of unit
   b. Operating procedures of unit
   c. Limitation of unit
   d. Maintenance of unit

7. **Air Compressor**
   a. Location of units
   b. Operating procedures of unit
   c. Limitation of unit
   d. Filters
   e. Air intake
   f. Maintenance of unit

E. Buddy Systems. When hydrogen sulfide is encountered over 10 ppm, all individuals should perform their jobs in in pairs. This practice is known as the "buddy system". The training program should cover the reasons why this procedure is necessary.

F. Essential and non-essential personnel.

F. Emergency communication items. (Chalkboard, voice packs, bull horns, etc.) Chalkboards are used on a H_2S location for communication between individuals when wearing respiratory equipment because a person cannot talk when wearing face mask. It should be pointed out during the training session where the chalkboard is located.

H. Safe briefing stations. There should be a minimum of two (2) briefing areas on each H_2S location, upwind of the drilling rig. During the training program it should be pointed out where the briefing areas are located and the conditions when the personnel should report to them

I Two H_2S conditions (moderate danger to life and extreme danger to life & operating conditions in each is attached)

G. Use safe demand self contained air breathing apparatus for demonstration purposes. Explain how
1. The pressure gauge is read.
2. The regulator functions.
3. The low pressure alarm functions.
4. The harness is to fit the body.
5. The mask is donned.
6. The mask view plate is cleared of condensation.
7. The pressure tank is to be filled or replaced.
8. The unit is serviced, sanitized, and stored back into its case for quick use.

Explain maintenance and bottle changing procedure so that they may correct minor malfunctions in order to keep the unit in service.

The employee will be required to practice donning the breathing apparatus in one minute or less starting with a closed apparatus case.

H. Institute a buddy system and explain its importance.

I. Explain the meaning of essential and non-essential personnel.
1. Essential personnel are members of the drilling crew whose services will be required to contain the well in the event of an H_2S emergency. These include (1) the contractors' toolpusher, (2) operator's drilling foreman, (3) mud analysis personnel, and (4) other persons needing protection on the rig - the mechanic, the electrician, the welder, the engineers.
2. Non-essential personnel are all other persons on the installation whose services are not required to contain the well.
3. Each company should assign work duties and reponsibilities to best utilize their personnel.

J. Operating Procedures - For familiarization purposes, all training should include the hazards that may be encountered during the following:
a. Tripping
b. Coring
c. Drill stem testing (where applicable)
d. Kicks
e. H_2S in mud
f. Neutralization of H_2S

K. Explain the proper use of emergency communications items (chalk board, voice packs, bull horns, etc.) during drills or potential emergencies.

L. Show the employee the location of each safe briefing area. The air recharging stations in the safety areas are to be explained, and the supervisor in charge of the station during a drill or potential emergency will direct personnel in their duties.

M. Conditions classification Areas
1. "Moderate Danger to Life" condition exists when drilling depth is within 1000 feet of the expected H_2S formation. All personnel should remain in a ready condition to react at the sound of the alarm.
2. "Extreme Danger to Life" will exist when H_2S escapes into the atmosphere and activates the alarm system.

N. All wind direction indicators (flags, wind socks, and streamers) are to be indicated to the employee so that he will be aware of wind direction and the importance of running into the wind to a safe area when the H_2S alarm sounds.

O. First aid training will be required with special emphasis on mouth-to-mouth resuscitation. Personnel will be instructed on the proper use of the oxygen resuscitator.
The training supervisor will record that each employee has satisfactorily completed the training program.
After the personnel are trained, drills for H_2S emergency conditions will be carried out once each week or more often if conditions warrant. Records will be maintained on date of drills and personnel that participated.

PHASE V. SERVICE AND VISITING PERSONNEL

Only essential personnel will be allowed on location when Condition II (orange) or Condition III (red) situation exists. All service personnel will receive proper H_2S emergency training and a record of training will be maintained. Previous agreement should be made regarding who will provide breathing equipment for service of visiting personnel.

PHASE VI. BREATHING EQUIPMENT/WARNING SYSTEM MAINTENANCE AND TRAINING

All air breathing equipment should be checked for condition a minimum of once each week. H_2S detection and monitoring equipment should be checked daily to make certain that the equipment is functioning properly. Record dates of inspection of all equipment and tag personal breathing equipment with date of inspection.

PHASE VII H_2S DRILLS

In order to train all personnel on location for efficiency in their assigned emergency duties, an H_2S drill will be held daily. Once it is decided that all personnel function satisfactorily, the drills should be held on a weekly basis

The fact is to be instilled in all rig personnel that the sounding alarm means only one thing H_2S is present, and everyone is to proceed to his assigned station

The following steps are to be taken when an H_2S alarm sounds:

A. All essential personnel will don their air breathing equipment. Assigned individuals will check the breathing air supply valves for the piped air systems. The driller will take necessary precautions as indicated by the contingency plan.

B. Bug blowers should be made operational and all open flames should be extinguished.

C. Implement the buddy system and act upon directions from the supervisor.

D. If there are non-essential personnel on location, they will don their air breathing equipment and move off location.

E. Gates to location entrance will be closed and patrolled and the red flag will be displayed at gate indicating that "Extreme Danger to Life" condition exists at rig.

F. After the drill, the H_2S contingency plan regarding notifying local authorities and alerting residents near the location of possible need to evacuate the area should be discussed.

G. Once the "all clear" signal is given, initiate the following steps:
1. The H_2S person-in-charge is to check the air breathing compressors, cascades, and air piping to determine any malfunctions that might have occurred and make necessary corrections.
2. Self-contained breathing equipment will be recharged for next use and checked for damages or malfunctions. Each will be properly stored.
3. Hose line egress units will be checked for damages and malfunctions are readied.
4. The H_2S person-in-charge will check out any problems that might have occurred with the H_2S sensing and monitoring equipment.
5. Portable H_2S monitoring instruments will be used to check low areas or dead air areas around the rig for any accumulation of H_2S.
6. Report any damages that occurred to the H_2S equipment.

H. Keep records on all H_2S drills. Records should include:
1. Date
2. Time
3. Drilling depth
4. Time required to complete the drill
5. Weather conditions
6. Names of personnel participating in the drill.
7. Brief description of activities conducted on rig floor and safe briefing areas.
9. Improper acts of personnel or the malfunctions of equipment noted during drill. Each H_2S drill is also be be noted in the daily drilling reports.

PHASE VIII. EVACUATION

At the sound of an H_2S alarm, the supervisor-in-charge will evaluate the condition and determine the action necessary.

A. Upon notice to evacuate from the supervisor-in-charge, any non-essential personnel should leave immediately.

B. If it is determined nothing else can be done to contain the well, all essential personnel will proceed to the safe briefing areas and evacuate.

C. Notify regulatory authorities of the emergency condition. Aid in the evacuation of residents in the possible danger area if necessary.

D. Maintain security of location. The operating company will give authorization for only essential personnel to re-enter the location.

PHASE IX. FIRING OF THE WELL

When all personnel have been evacuated from the drilling location and it is determined necessary for safety, the contingency plan for "Firing of the Well" will be executed. All personnel in the area are to be advised to remain upwind from the burning well with the explanation that sulphur dioxide (SO_2), which is also a poisonous gas is created when H_2S is burned.

A fire watch will be maintained until wild well is under control.

J. Wind direction indicators. Wind socks are used on a H_2S location to advise the crew members of the direction of the wind. When H_2S becomes present on the location, the individual will know where to move upwind to his proper protective equipment station. During the training program, the instructor should advise the individual where the wind socks are located.

K. Warning Signs.

L. Bug Blowers. Bug blowers are used on a H_2S drilling site to direct the hydrogen sulfide gas during low wind days. The location of the blowers and the correct operating procedure should be pointed out to the drilling crews during the training session.

M. Flare lines (advise as to purposes). During the training session, the individual should be advised that a flare gun is on the location for lighting the well as a last resort. It should be pointed out who is directly responsible to use the flare gun.

N. Explosion Meter. It should be emphasized during the session that there is an explosion meter on location, where it is placed, how it should be used, and who is responsible for it.

O. Safety Belts and Ropes. Safety belts and ropes on a H_2S location are used to pull an individual who has blacked out in a confined area. The location of safety belts and ropes and the reason for their use should be pointed out to the drilling crew during the training session.

P. First aid requirements.

PHASE IV. TRAINING PROCEDURES

Procedures are to include:

A. Review the H_2S contingency plan.

B. View the H_2S visual training aids.

C. Point out the locations of the H_2S sensors, describe their function.

D. Point out the locations of each audible and visual alarm panel and explain how to distinguish between the two emergency conditions.

E. Point out the location of briefing areas and the conditions for reporting to them.

F. Explain the cascade system:

1. Air Compressor
2. Piping: The inspection and maintenance of fittings required.
3. Air reservoir
   a. Unit locations
   b. Limitations of units
   c. Regulator of unit
   d. Operating procedures
   e. Changing cylinders
   f. Recharging cylinders
   g. Maintenance and storage of units
4. Manifold air stations
   a. Locations
   b. Limitations
   c. Operating procedures
   d. Maintenance and storage
5. Hose line units
   a. Locations and precautions
   b. Limitations: bottle pressure, hose length, hose pressure
6. Operation of unit: hoseline and escape unit
   a. Pressure gauge
   b. Regulator
   c. Low pressure alarm
   d. Hoseline (egress unit) for demonstration purposes
      (1) Harness
      (2) Mask
      (3) Clear mask view plate
      (4) Filling or replacing the pressure tank
      (5) Servicing, sanitizing, and storage of unit into its case for quick use when needed

7. Explain maintenance and bottle changing procedure so that they may correct minor malfunctions in order to keep the unit in service. The employee will be required to practice donning the breathing apparatus in one minute or less, starting with a closed apparatus case. It should be explained to all that support vessels are equipped with breathing equipment and hose line connections for their use when evacuating the immediate area.

R E S C U E B R E A T H I N G

WHAT IS RESCUE BREATHING?

It is the use of your own breath to revive someone who is unable to breathe for himself. It is the oldest and most effective of resuscitation. The air you exhale is not "spent". It contains enough oxygen to save a person's life. By placing your mouth over the mouth or nose of an unconscious person, you can inflate his lungs and breathe for him.

WHEN TO USE:

Danger signs indicating a lack of oxygen in the blood and the need for help with breathing are:

Absence of breathing movements, blue color of lips, tongue and fingernails . . .

Start rescue breathing at once! A short time without oxygen can cause serious damage to the brain. DELAY MAY BE FATAL!

DON'T WASTE TIME BY: Feeling victim's pulse...finding special equipment...moving victim...goin for help...getting to shore...

DON'T EVEN WAIT TO BE SURE the victim needs help...

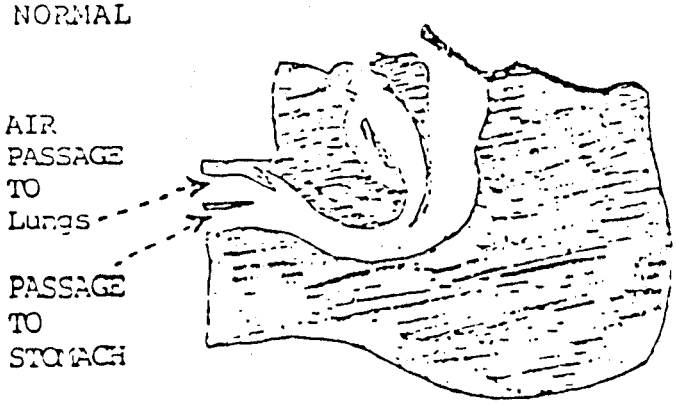
R E L A X E D T O N G U E O B S T R U C T S B R E A T H I N G

BEFORE STARTING RESCUE BERATHING, IT IS ESSENTIAL TO MOVE THE TONGUE FORWARD SO AIR CAN REACH THE LUNGS. Sometimes the victim who is not breathing will start breathing by himself if the tongue obstruction is removed.

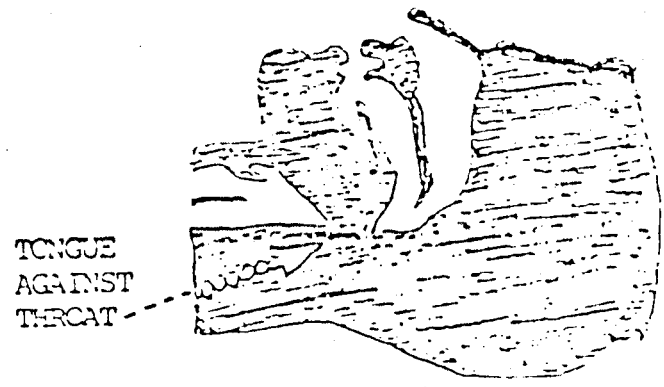
During normal breathing, air flows easily through the nose or mouth to and from the lungs...

But when a person loses consciousness, his relaxed tongu can completely block the movemen of air through his throat...

NORMAL



UNCONSCIOUS

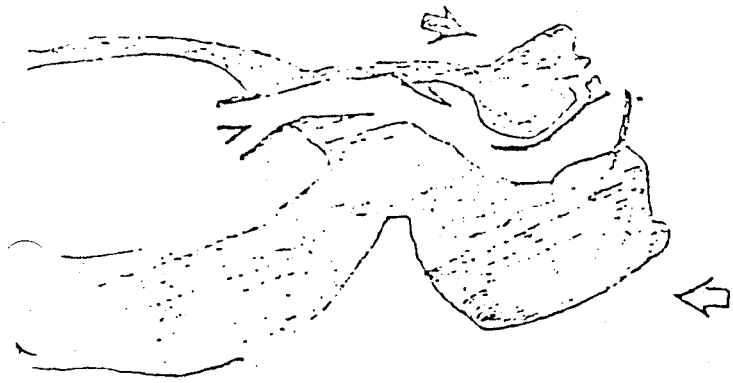


HOW TO PREVENT TONGUE OBSTRUCTION

There are several methods of keeping the victim's tongue from blocking his throat.

1. The head tilt - the most simple method, and the one used for instruction throughout this book.

   ...Using one hand, hold the crown of his head firmly and push backward.
   . Pull his chin upward with the other hand.
   ...Hold his head tilted as far back as you can - until the skin over throat is stretched tight.



2. Lift chin by grasping lower teeth with thumb.

3. Lift jaw upward, placing both hands on corners of jawbone near earlobes.

RESCUE BREATHING FOR ADULT VICTIMS

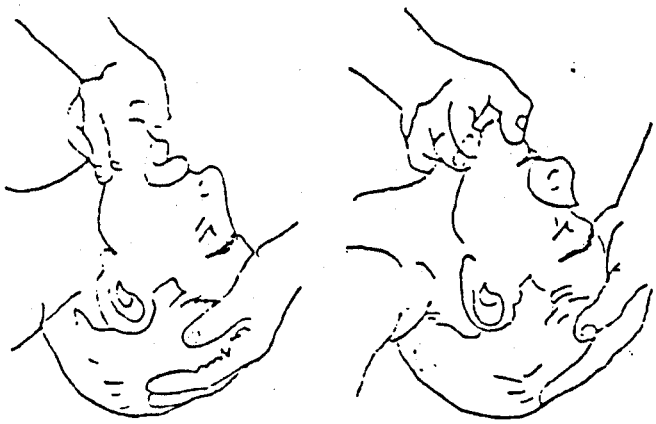
INFLATE CHEST 12 TIMES A MINUTE

STEPS TO FOLLOW:

1. If practical, place the victim on his back with his head lower than his chest. If not, leave him as he is. As long as you have access to his mouth or nose, rescue breathing can be done with the victim sitting in an automobile, pinned under debris, suspended on a safety belt on an electric power line, or floating face up in water.
2. Lift his neck and tilt his head back. This procedure is important to keep his relaxed tongue from blocking his throat.
3. Take a deep breath. Open your mouth wide. Blow air into the victim through his mouth or through his nose until you see his chest rise.

Mouth-to-mouth breathing - Seal your lips widely around the victim's mouth. With your thumb, fold his lip down to keep his mouth open during inflation and exhalation. To prevent leakage during inflation, press your cheek against his nostrils (or pinch his nostrils shut).

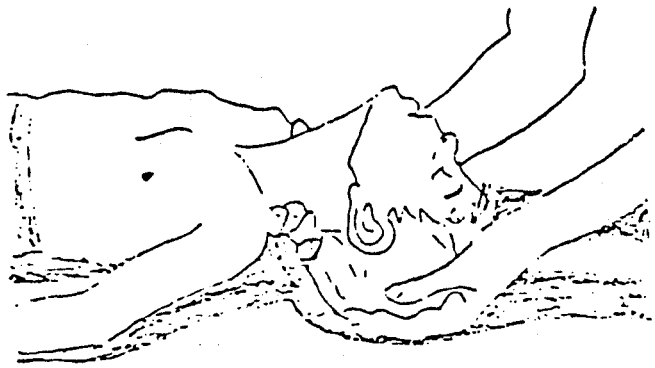
Mouth-to-nose breathing - Seal your lips widely on the victim's cheeks around his nose. Be sure your lips don't close his nostrils. Close his mouth with your thumb on his lower lip.



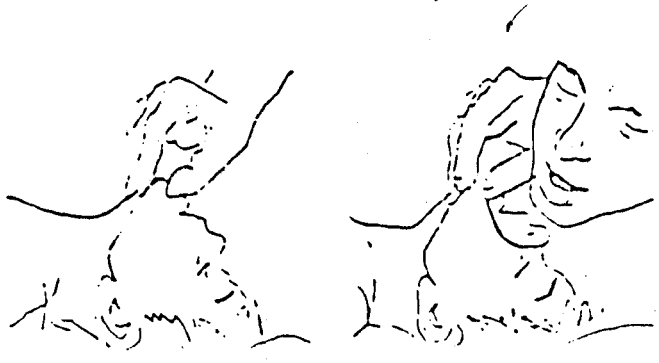
4. Remove your mouth and turn your head to one side to let the air escape from the victim's lungs, to take your next breath, and to reduce the possibility of infection. When doing mouth-to-nose breathing, it may be necessary to hold the victim's mouth open so that he may also exhale through it.

5. If you do not see his chest rise, follow procedures for clearing victim's throat.

RESCUE BREATHING FOR INFANTS AND SMALL CHILDREN



1. Place the victim on his back and gently lift his neck and tilt his head back.
2. Seal your lips around his mouth and nose and blow air gently until you are sure his chest expands. It takes only a little air.
3. Stop blowing as soon as his chest starts to rise and let him breathe out.
4. Inflate chest 20 times a minute.



WHEN RESCUE BREATHING, TAKE AN OCCASIONAL DEEP BREATH IF YOU FEEL THE NEED FOR MORE AIR.

HOLDEN ENERGY CORPORATION

UTE NO. 13-1

SECTION 13, T4S, R1E, U.S.B.& M.

10 POINT DRILLING PROGRAM

1. Geological Surface Formation: Uintah

2. Geological Marker Tops:

Formation	Drilled Depth
Green River	2,675'
Wasatch	7,500'

3. Depths at which water, oil, gas or other mineral bearing formations are expected to be encountered.

Formation	Estimated Top
Green River	2,675' oil, water
Wasatch	7,500' oil, gas, water

4. Proposed Casing Program: All new casing

	Cement
10 3/4" Casing: 350'	
8 3/4" Hole to 7000'	150 sacks Class "H"
Set 7" Casing	360 sacks Class "H" +12% gel
6 1/4" Hole - 10,000	
Set 4 1/2" Liner	
Back to 6800'	

5. Operator's Specifications for Pressure Control Equipment:

a. Minimum working pressure on rams and BOP equipment will be 5,000 psi.

b. Function test and visual inspection of the BOP will be conducted daily and noted in the Daily Drilling Report.

c. Both high and low pressure tests of the BOP will be conducted weekly.

6. Proposed Circulating Medium:

Depth	Mud Type	Density (lb./gals.)	Viscosity (Sec./Qt.)	Water Loss
0'-350'	Native	8.5 - 9.0	30-45	NC
350'-5000'	2% KCL	8.7 - 9.0	26-30	10-20 cc
5000'-10000'	2% KCL	9.0 - 10.0	30-40	Less than 10cc

The reserve pit will be lined if determined by the BLM to be needed.

7. Auxiliary Equipment:

a. Kelly cock

b. Monitoring of the mud system will be done visually. A full opening drill pipe stabbing valve will be kept on the floor at all times.

8. Testing, Logging and Coring:

Cores: None
DST: 1 - Green River 2,675'plus, 1 - Wasatch 7,200'
Logging: DLL-MSFL; FDC-CNL-GR, T.D. to 300'
Formation and Completion Interval: Green River 5,300' - 7,500'; Wasatch 7500' - 10,000'

9. Abnormal Pressures or Temperatures; Potential Hazards

No abnormal pressures or temperatures are anticipated. Anticipated bottom hole pressure is 4,000 psi.

10. Anticipated Starting Date and Duration:

July 15, 1988
30 days

CONDITIONS OF APPROVAL

FOR THE SURFACE USE PROGRAM OF THE

APPLICATION FOR PERMIT TO DRILL

FOR

HOLDEN ENERGY CORPORATION

UTE NO. 13-1

LEASE NO. 14-20-H62-4376

LOCATED IN THE NE 1/4 NE 1/4

SECTION 13, T4S, R1E, U.S.B.& M.

THIRTEEN POINT SURFACE USE PROGRAM:

Multipoint Requirements to Accompany APD

1. Existing Roads

A. See attached topographic map for approximate well site location and lengths of road to be reconstructed and new-built. Exhibit 1a.

B. Ute No. 13-1, proposed to be drilled to a TD of 10,000' + is located approximately 12.0 miles south of the Fort Duchesne Agency in the NE 1/4 NE 1/4 Section 13, T4S, R21E, Uintah County, Utah. From the Fort Duchesne Agency proceed south on the bituminous surface road to its intersection with the Duchesne River thence left onto the Uintah County gravel surface road (loop f16) approximately 1/4 miles south of the river crossing. Proceed on the Uintah County road southerly for approximately 4.5 miles to the wellsite location.

C. Access road is shown in pink and labeled on Exhibit 1.

D. The access road will be improved to allow temporary usage during drilling operations with an additional 100' of new road built from the improved road to the wellsite. The access road will be maintained to the standards required by the BLM and BIA during drilling operations. However, if the well proves to be commercial it will be upgraded to an all-season road and maintained to the existing BLM and BIA standards.

Surface Ownership

All of the surface land involved in the construction of the access road and location site are owned by Coleman Brothers.

The Topography of the General Area

The project area is on rangeland that comprises the top of Leland Bench. The Duchesne River is located approximately 7.0 miles to the north of the location site.

The topsoil in the area is clay containing desert varnished cobbles and stone fragments.

The majority of the numerous washes and draws in the area are of a non-perennial nature flowing during the early spring run-off and extremely heavy rain thunderstorms of long duration, which are extremely rare as the normal annual rainfall in the area is only 8".

The Duchesne River to the north of this location is the only perennial water that is affected by this location site.

The vegetation that is found in the area is common of the semi-arid region we are located in; it consists of primary flow areas of sagebrush, rabbit brush, some grasses and cacti as the primary flora.

The fauna of the area consists predominantly of prairie dogs. However, burrows of prairie dogs were not observed in the area of the drill site. The area is used by man for the primary purpose of grazing lands for domestic sheep and cattle.

The area is undoubtedly visited by raptors in search of prey and is likely overflown by itinerant eagles, hawks and falcons. No nesting sites were seen in the immediate area of the drill site.

The Topography of the Immediate Area

Ute No. 13-1 is situated on a bench land and is a shadscale - mixed desert shrub community on gravelly pediment over the Duchesne River Formation.

The vegetation in the immediate area surrounding the location site consists primarily of shadscale - mixed desert shrub.

There are no occupied dwellings or other facilities of this nature in the general area.

There are no visible archaeological, historical, or cultural sites within any reasonable proximity of the proposed location site.

2. Planned Access Roads: describe the following and provide a map of suitable scale indicating all necessary access roads (permanent and temporary) to be constructed or reconstructed, showing: (see below and Exhibit 1).

A. Length: Approximately 100'

B. Width: 30 foot right-of-way with 18 foot running surface maximum, if a producer.

C. Maximum grades: 1%

D. Turnouts: None needed

E. Drainage design: Borrow ditches

F. Location and size of culverts and/or bridges and brief description of any major cuts and fills.

G. Surfacing material (source): Native materials from road right of way.

H. Necessary gates, cattleguards, or fence cuts and/or modification to existing facilities: None

I. Access road surface ownership: Coleman Brothers

All travel will be confined to existing access road rights-of-way.

Access roads and surface disturbing activities will conform to standards outlined in the USGS Publication (1978) Surface Operating Standards for Oil and Gas Development.

The road shall be upgraded to meet the standards of the anticipated traffic flow and all-weather road requirements. Prior to upgrading, the road shall be cleared of any snow cover and allowed to dry completely. Traveling off the 30 feet right-of-way will not be allowed. Road drainage crossings shall be of the typical dry creek drainage crossing type. Crossings shall be designed so they will not cause siltation or accumulation of debris in the drainage crossing nor shall the drainages be blocked by the roadbed. Erosion of drainage ditches by runoff water shall be prevented by diverting water off at frequent intervals by means of cutouts. Upgrading shall not be allowed during muddy conditions, Should mud holes develop, they shall be filled in and detours around them avoided.

3. Location of Existing Wells: Describe the following and provide a map or plat of all wells within a one mile radius of the proposed well location showing and identifying existing wells: (see Exhibit II):

A. Water wells
B. Abandoned wells
C. Temporarily abandoned wells
D. Disposal wells
E. Drilling wells
F. Producing wells
G. Shut-in wells
H. Injection wells

4. Location of Existing and/or Proposed Facilities

A. On well pad, if the well is successfully completed for production, all lines will be installed above ground and insulated with the exception of the produced water line which will be buried along the west and south perimeters of the location. If a tank battery is constructed it will be on the southwest corner of the location, near corner no. 2.

B. Off well pad facilities are not anticipated at this time, since the battery will be self-sustaining. If further facilities are required, Holden Energy Corporation will apply for approval of subsequent off well pad operations.

If a tank battery is constructed on this lease, the battery or the well pad will be surrounded by a dike of sufficient capacity to contain 1 1/2 times the storage capacity of the battery. The batteries will be placed on the northeast corner of the location.

All permanent (on site for six months or longer) structures constructed or installed (including pumping units) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with Ø.S.H.A, (Occupation Safety and Health Act) will be excluded.

The required paint color is Desert Brown (1Ø yr 6/3)

5. Location of Type of Water Supply

A. Show location and type of water supply, either by 1/4, 1/4 section on a map or by written description from the Duchesne River - see Exhibit Ia.

B. State method of transporting water, and show any roads or pipelines needed. Water will be transported by Tank Truck using road as shown on Exhibit I.

C. If water well is to be drilled on lease, so state: No

6. Source of Construction Materials

Construction materials will be native soil and gravel deposits from location and access road.

If fill materials are needed to construct the road or wellsite, proper permits will be obtained from the surface management agency, unless materials are obtained from private source.

7. Methods for Waste Disposal

A. Describe methods and location of proposed safe containment and disposal of each type of waste material, including:

(1) Cuttings: will be left in reserve pit.

(2) Sewage: will be contained in Porta Potty.

(3) Garbage (trash) and other waste material: Contained in wire basket and hauled to sanitary landfill.

(4) Salts: Contained in lined pit

(5) Chemicals: Contained in lined pit.

B. Provide a plan for eventual disposal of drilling fluids and any produced oil or water recovered during testing operations. It will be hauled by truck from the location to one of the following disposal facilities:

LaPoint Recycle and Storage
Section 12, T5S, R19E
Uintah County, Utah

MC & MC Pits
Section 27, T1N, R2W
Duchesne County, Utah

Hanson Disposal
Section 7, T3S, R3W
Duchesne County, Utah

*Burning will not be allowed. All trash must be contained in a trash cage and hauled away to an approved disposal site at the completion of the drilling activities.

On BIA Administered Lands:

The reserve pit shall be lined.

Pits will be constructed so as not to leak, break or allow discharge of liquids.

Produced waste water will be confined to reserve pit for a period not to exceed 90 days after initial production. During the 90 day period an application for approval of a permanent disposal method and location, along with required water analysis, will be submitted for the A0's approval. Failure to file an application within the time allowed will be considered an incident of noncompliance.

8. Ancillary Facilities

Camp facilities or airstrips will not be required.

9. Well Site Layout

A. Cross-sections of proposed drill pad with approximate cuts and fills and the relation to topography.

B. Location of mud tanks, reserve, flare, and emergency pits, pipe racks, living facilities, and soil material stockpiles, etc. (Approval as used in this section means field approval of location.)

C. Rig orientation, parking areas, and access roads, etc.

All pits will be fenced with a wire mesh fence and topped with at least one strand of barbed wire. The reserve pit fencing will be on three sides during drilling operations and on

the fourth side when the rig moves off the location. Any hydrocarbons on the pit will be removed from the pit as soon as possible after drilling operations are completed. Pits will be fenced and maintained until clean-up.

The fence will be constructed as prescribed in the USGS Publication (1978) Surface Operating Standards for Oil and Gas Development. Alternatives to the prescribed standards shall be submitted to the Authorized Officer for approval.

Well Site Layout: The reserve pit will be located on the Southeast side of the location.

The stockpiled topsoil will be stored between points 2 and 3.

Access to the well pad will be from the Southwest side near Corner No. 2.

The No. 8 Corner of the well pad will be rounded off and moved back to avoid the drainage.

10. Plans for Restoration of Surface

A. Provide a restoration program upon completion of operations, including:

(1) Backfilling, leveling, recontouring, and waste disposal; segregation of topsoil from cut materials as needed.

(2) Revegetation and rehabilitation including abandoned access roads or portions of well pads no longer needed (normally per BLM recommendations).

(3) Proposed timetable for commencement and completion of rehabilitation operations 90 days after completion of operations.

B. The following are provisions to be addressed in the restoration plan:

Immediately upon well completion, the location and surrounding area will be cleared of all debris, materials, trash and junk not required for production.

Before any dirt work to restore the location takes place, the reserve pit must be completely dry and all cans, barrels, pipe, etc. will be removed. The reserve pit and that portion of the location and access road not needed for production facilities/operations will be reclaimed. The reserve pit will be reclaimed within 90 days from the date of well completion.

All disturbed areas will be recontoured to the approximate natural contours.

The stockpiled topsoil will be evenly distributed over the disturbed areas.

Prior to reseeding, all disturbed areas, including the access roads, will be scarified and left with a rough surface.

Seed will be broadcast or drilled at a time specified by the private surface owner. If broadcast, a harrow or some other implement will be dragged over the seeded area to assure seed coverage and the seed mixture will be proportionately larger (double the lbs. per acre).

An appropriate seed mixture will be determined by the private surface owner, either as part of the Conditions of Approval of the APD or at the time restoration activities are scheduled to begin.

All seeding will be done from September 15th until the ground freezes.

At such time as the well is plugged and abandoned the operator will submit a surface reclamation plan to the private surface owner for prescribed seed mixtures and reseeding requirements.

If the seeding is unsuccessful, the lessee/operator may be required to make subsequent seedings.

11. Surface Ownership: Coleman Brothers

12. Other Additional Information

The BLM recommends a general description of:

A. Topography, soil characteristics, geologic features, flora, and fauna.

B. Other surface-use activities and surface ownership of all involved lands.

C. Proximity of water, occupied dwellings, archaeological, historical or cultural sites.

A cultural resource clearance will be required before any construction begins on Federal and Indian lands. However, historic and cultural resource work shall be undertaken only with the written consent of a private surface owner. If the private surface owner refuses entry for that purpose, the lessee or operator shall use its best efforts to conduct that purpose, the lessee or operator shall use its best efforts to conduct its approved operations in a manner that avoids adverse effects on any properties which are listed, or may be eligible for listing, in the NRHP.

If, during operations, any archaeological or historical sites, or any object of antiquity (subject to the Antiquities Act of June 8, 1906) are discovered, all operations which would affect such sites are to be suspended and the discovery reported promptly to the Surface Management Agency.

On BLM administered land, it is required that a proposed use of pesticide, herbicide or other possible hazardous chemicals shall be cleared for use prior to application.

On BIA Administered Land:

Operator's employees, including subcontractors, will not gather firewood along roads constructed by operators. If wood cutting is required, a permit will be obtained from the Forestry Department of the BIA pursuant to 25 CFR 169.13 "Assessed Damages Incident to Right-of-Way Authorization". All operators, sub-contractors, vendors and their employees or agents may not disturb saleable timber (including firewood) without a duly granted wood permit from the BIA Forester.

If the surface rights are owned by the Ute Indian Tribe and mineral rights are owned by another entity, an approved rights-of-way will be obtained from the BIA before the operator begins any construction activities. If the surface is owned by another entity and the mineral rights are owned by the Ute Indian Tribe, rights-of-way will be obtained from the other entity.

All roads constructed by operators on the Uintah and Ouray Indian Reservation will have appropriate signs. Signs will be neat and of sound construction. They will state: (a) that the land is owned by the Ute Indian Tribe, (b) the name of the operator, (c) that firearms are prohibited to all non-Ute Tribal members, (d) that permits must be obtained from the BIA before cutting firewood or other timber products and (e) only authorized personnel permitted.

All well site locations on the Uintah and Ouray Indian Reservation will have an approporiate sign indicating the name of the operator, the lease serial number, the well name and number, the survey description of the well (either footages or the quarter-quarter section, the section, township and range).

Additional Surface Stipulations for BLM, BIA, FS, DWR, or Private Surface Lands:

The operator or his contractor shall contact the BLM Office at (801) 789-1362 (BLM) between 24 and 48 hours prior to construction activities. Contact Tim O'Brien.

The BLM and BIA offices shall be notified upon site completion prior to moving on the drilling rig.

Because of the H2S found to be present in the Holden #21-1 well a contingency plan will be submitted as part ofWBecause of the H2S found to be present in the Holden Energy #21-1, an H2S contingency plan will be required as part of this A.P.D.

The flare pit will be located west of the reserve pit fence a minimum of 30' and a minimum of 100' from rig substructure.

Note: If the land is privately owned, these surface stipulations may be varied to comply with the operator - land owner agreement.

13. Lessee's or Operators Representative and Certification

Representative

Name: Ken Allen

Address: P.O. Box 1156, Roosevelt, Utah 84066

Phone No.: (801) 722-5081

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved plan of operations, and any applicable Notice to Lessees. The operator is fully responsible for the actions of his sub-contractors. A copy of these conditions will be furnished to the field representative to insure compliance.

The dirt contractor will be provided with an approved copy of the Surface Use Plan from the APD.

This drilling permit will be valid for a period of one year from the date of approval. After permit termination, a new application will be filed for approval for any future operations.

Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are true and correct to the best of my knowledge; and, that the work associated with the operations proposed here will be performed by Holden Energy Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

July 8th, 1998
Date

Name and Title

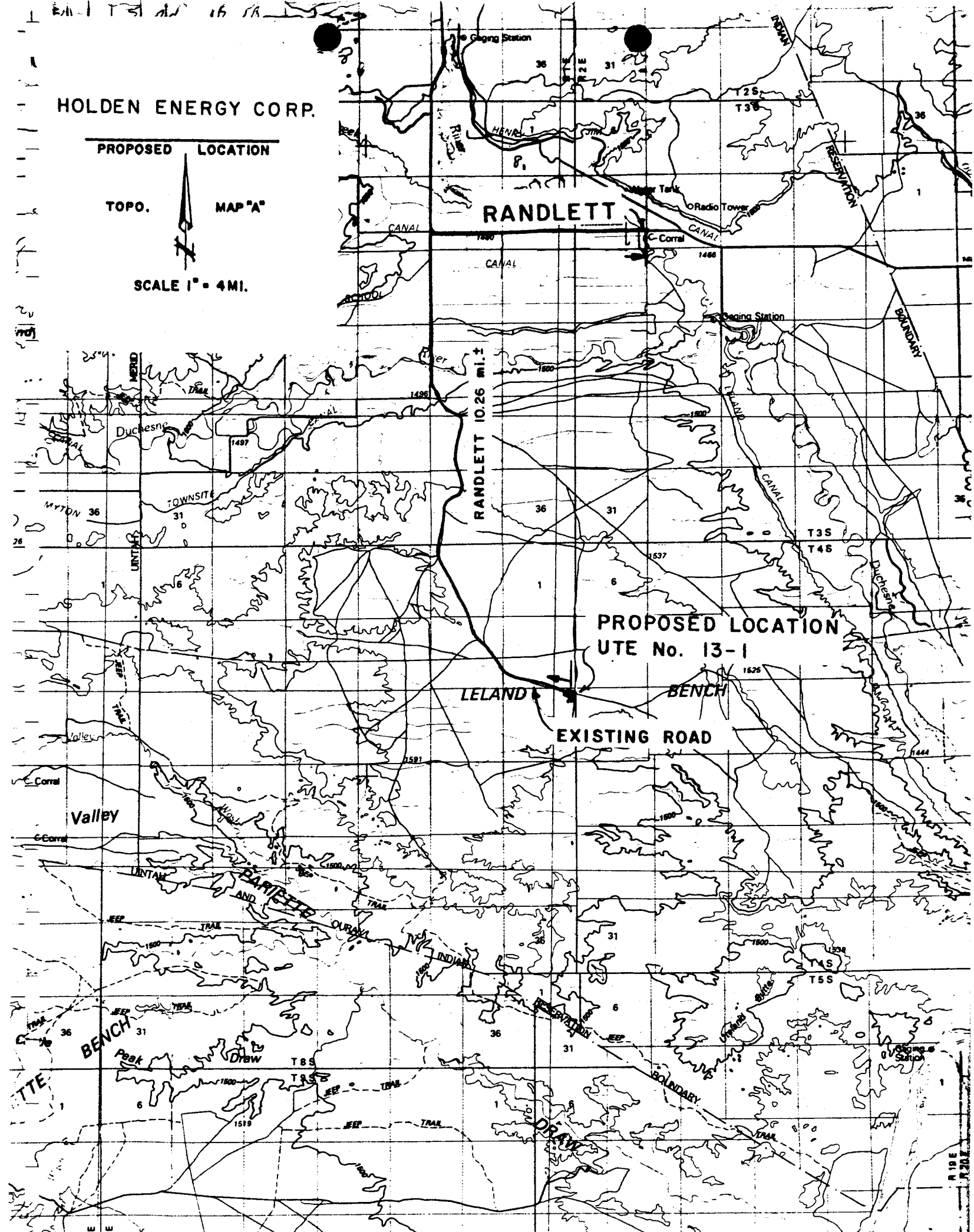
Onsite Date: _____

Participants on Joint Inspection

Ken Allen - Holden Energy

Timothy O'Brien - Bureau of Land Management

Gary Streeter - Uintah Engineering and Land Surveying


HOLDEN ENERGY CORP.
PROPOSED LOCATION
TOPO. MAP "A"
SCALE 1" = 4MI.
RANDLETT
RANDLETT 10.26 mi.±
PROPOSED LOCATION
UTE No. 13-1
EXISTING ROAD
LELAND BENCH
Gaging Station
Water Tank
Radio Tower
Corral
CANAL
RESERVATION
BOUNDARY
Duchesne
TOWNSITE
Valley
BENCH
Peak
Draw
INDIAN
TRAIL
JEEP
T2S
T3S
T4S
T5S
T6S
T7S
T8S
R1E
R2E

APPLICATION FOR TEMPORARY CHANGE OF WATER

STATE OF UTAH

Rec. by _____

Fee Paid $ _____

Receipt # _____

Microfilmed _____

Roll # _____

For the purpose of obtaining permission to make a temporary change of water in the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of Section 73-3-3 Utah Code Annotated 1953, as amended.

TEMPORARY CHANGE APPLICATION NO. t88-43-8

Proposed changes: point of diversion [X], place of use [X], nature of use [X].

1. **NAME:** Holden Energy Corporation
   Water leased from Ute Indian Tribe
   ADDRESS: P.O. Box 1758 Vernal, UT 84078

2. **FILING DATE:** June 30, 1988

3. **RIGHT EVIDENCED BY:** Application A8908

   HERETOFORE referenced from Water Right: 43-483

4. **FLOW:** 5.47 cfs

5. **SOURCE:** Duchesne River

6. **COUNTY:** Duchesne

7. **POINT(S) OF DIVERSION:**
   (1) N 608 ft. E 278 ft. from S¼ corner, Section 20, T3S, R1E, USBM
   Diverting Works: Ouray School Canal

8. **NATURE OF USE:**
   IRRIGATION: Total: 3781.82 acres
   PERIOD OF USE: May 1 to October 15

9. **PLACE OF USE:**

	NORTH-EAST¼				NORTH-WEST¼				SOUTH-WEST¼				SOUTH-EAST¼			
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE
Sec 11, T3S, R1E, USBM			X	X		X	X	X	X	X	X	X			X	X
Sec 12, T3S, R1E, USBM					X		X	X								
Sec 13, T3S, R1E, USBM											X				X	X
Sec 14, T3S, R1E, USBM										X	X	X	X		X	X
Sec 15, T3S, R1E, USBM									X	X	X	X			X	X
Sec 20, T3S, R1E, USBM													X			X
Sec 21, T3S, R1E, USBM	X	X	X	X	X		X	X	X	X				X		
Sec 22, T3S, R1E, USBM	X	X	X	X	X	X	X	X								
Sec 23, T3S, R1E, USBM	X	X			X	X	X	X								
Sec 24, T3S, R1E, USBM	X	X			X	X										
Sec 7, T3S, R2E, USBM							X	X	X	X	X					
Sec 17, T3S, R2E, USBM		X	X			X	X	X	X	X	X	X				

Continued on Next Page

	NORTH-EAST¼				NORTH-WEST¼				SOUTH-WEST¼				SOUTH-EAST			
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE
Sec 18, T3S, R2E, USBM	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sec 19, T3S, R2E, USBM	X	X	X		X	X	X	X								
Sec 20, T3S, R2E, USBM		X			X	X										

THE FOLLOWING TEMPORARY CHANGES ARE PROPOSED

10. **FLOW:** 8.0 acre-feet REMAINING WATER: Same as HERETOFORE

11. **SOURCE:** Duchesne River

12. **COUNTY:** Duchesne COMMON DESCRIPTION:

13. **POINT(S) OF DIVERSION:** Changed as follows:
( ) N 2400 ft. E 200 ft. from SW corner, Section 23, T3S, R1E, USBM
Diverting Works: Pumped from river into trucks Source: Duchesne River

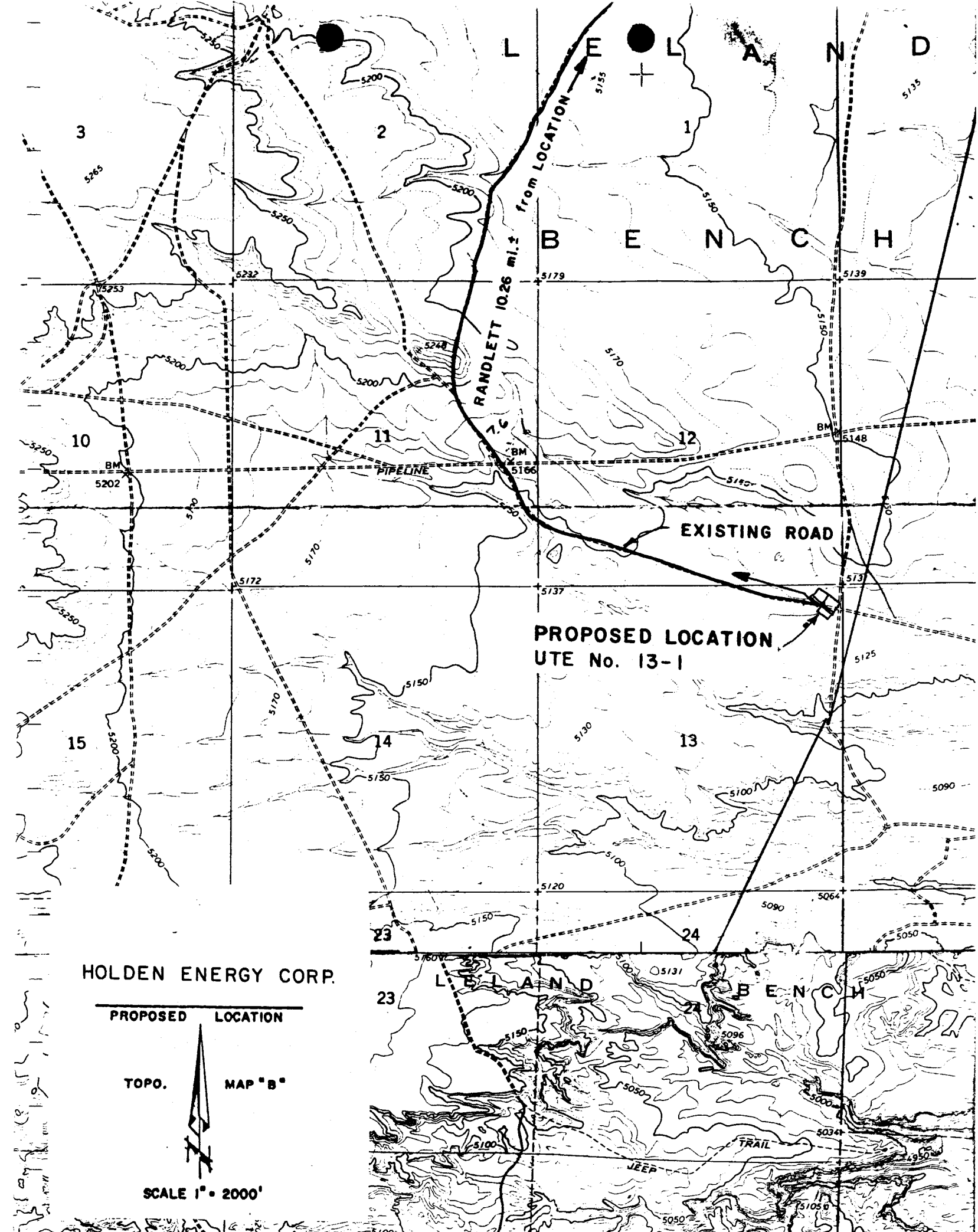
14. **PLACE OF USE:** Changed as follows:

	NORTH-EAST¼				NORTH-WEST¼				SOUTH-WEST¼				SOUTH-EAST			
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE
Sec 13, T4S, R1E, USBM	X															
Sec 25, T4S, R1E, USBM							X									

15. **NATURE OF USE:** Changed as follows:
OIL EXPLORATION: Oil well drilling and completion of Ute #13-1 oil well.
PERIOD OF USE: July 1, 1988 to June 30, 1989
OIL EXPLORATION: Oil well drilling and completion of Ute #25-1 oil well.
PERIOD OF USE: July 1, 1988 to June 30, 1989

The undersigned hereby acknowledges that even though he/she may have been assisted in the preparation of the above-numbered application through the courtesy of the employees of the State Engineer's Office, all responsibility for the accuracy of the information contained therein, at the time of filing, rests with the applicant.

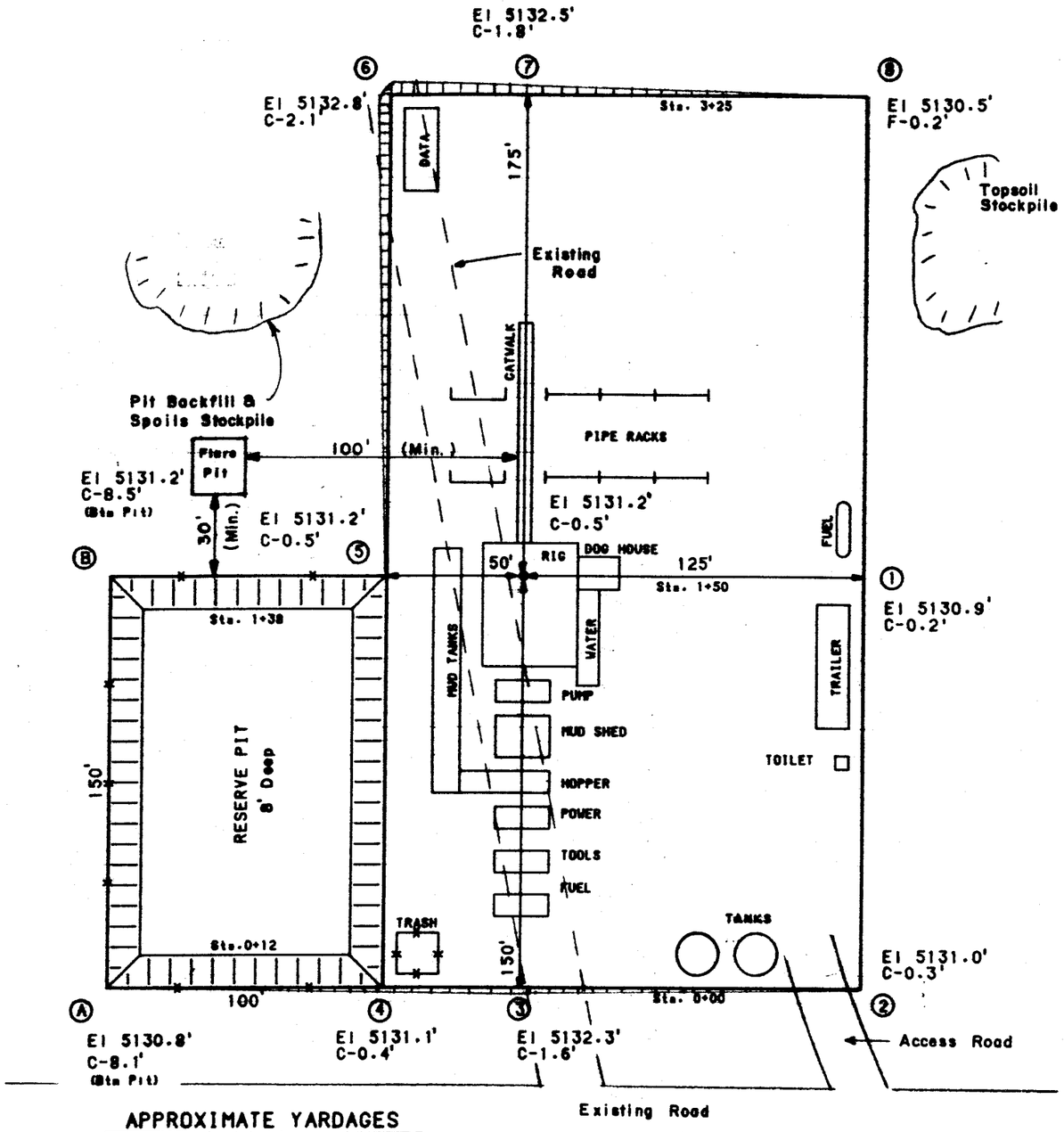
Laurence L. Kay For Hadden Energy Co
Signature of Applicant

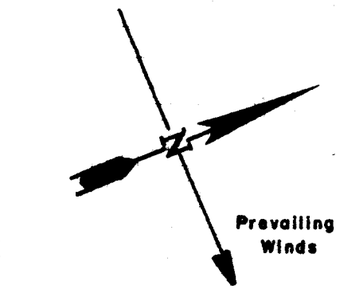

L E L A N D
B E N C H
RANDLETT 10.26 mi.± from LOCATION
EXISTING ROAD
PROPOSED LOCATION
UTE No. 13-1
PIPELINE
BM 5202
BM 5166
BM 5148
L E L A N D
B E N C H
TRAIL
JEEP
HOLDEN ENERGY CORP.
PROPOSED LOCATION
TOPO. MAP "B"
SCALE 1" = 2000'

HOLDEN ENERGY CORPORATION

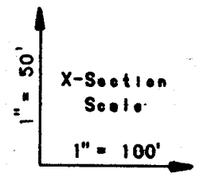
LOCATION LAYOUT FOR

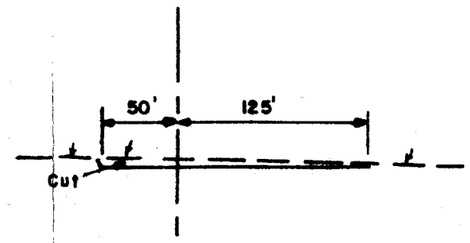
UTE #13-1
SECTION 13, T4S, R1E, U.S.B.&M.





SCALE: 1" = 50'
DATE: 6/9/88





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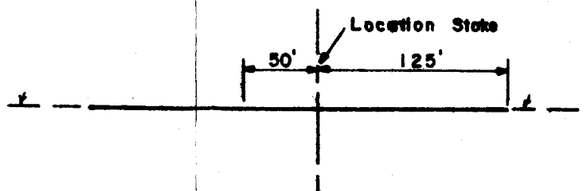

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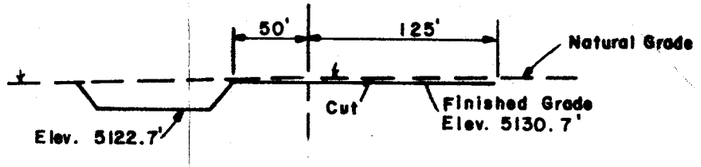

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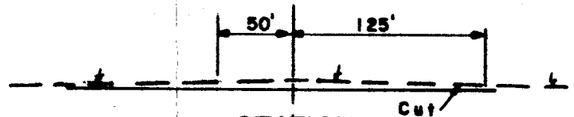


STATION
0+00.00

APPROXIMATE YARDAGES

CUT		EXCESS MATERIAL AFTER	
(6") Topsoil Stripping	= 1,331 Cu. Yds.	20% COMPACTION	= 5,289 Cu. Yds.
Pit Volume (Below Grade)	= 3,598 Cu. Yds.	Topsoil & Pit Backfill (1/2 Pit Vol.)	= 3,130 Cu. Yds.
Remaining Location	= 567 Cu. Yds.		
TOTAL CUT	= 5,496 CU. YDS	EXCESS UNBALANCE (After Rehabilitation)	= 2,159 Cu. Yds.
FILL	= 166 CU. YDS		

UINTAH ENGINEERING & LAND SURVEYING
P.O. Box 1758 Vernal, Utah

ARCHEOLOGICAL - ENVIRONMENTAL RESEARCH CORPORATION

P.O. Box 853 Bountiful, Utah 84010
Tel: (801) 292-7061, 292-9668

June 27, 1988

Subject: CULTURAL RESOURCE EVALUATION OF TWO PROPOSED WELLS -- UTE TRIBAL UNITS NO. 13-1 and 25-1 IN THE LELAND BENCH LOCALITY OF UINTAH COUNTY, UTAH

Project: Holden Energy Corporation - 1988 Drilling Project

Project No.: HEC-88-1

Permit No.: Dept. of Interior -- 54937
Utah State Project No. 88-AF-272i

To: Holden Energy Corporation, Attention Mr. Rick Orr, Lincoln Center, Suite 600, Ardnore, Oklahoma 73401

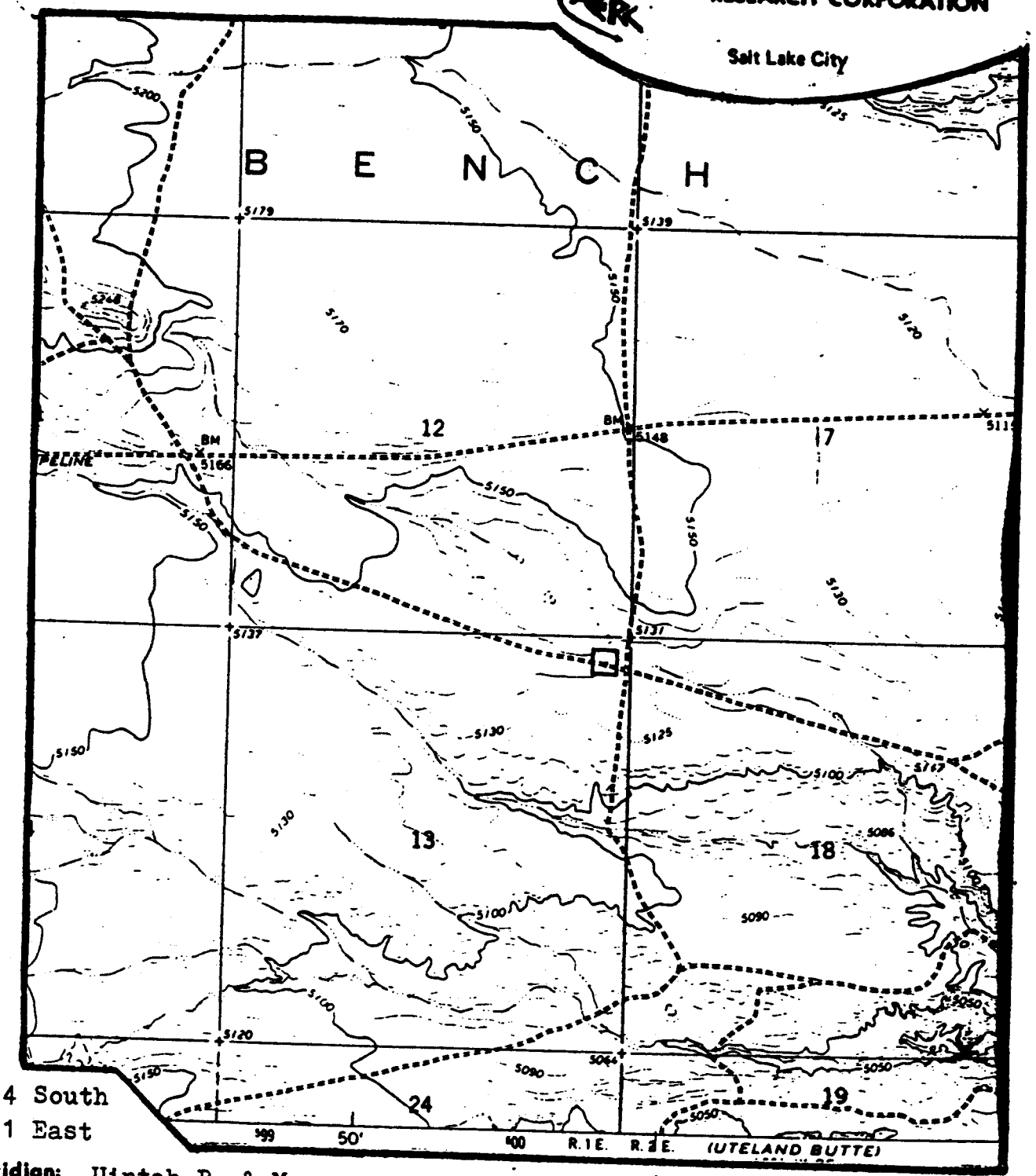
Mr. Roland McCook, Bureau of Indian Affairs, P.O. Box 190, Fort Duchesne, Utah 84026

Mr. Darren Cuch, Ute Indian Tribe, Energy & Minerals Dept., P.O. Box 190, Fort Duchesne, Utah 84026

Mr. Blaine Phillips, District Archaeologist, Bureau of Land Management, 170 South 500 East, Vernal, Utah 84078

Info: Antiquities Section, Division of State History, 300 Rio Grande, Salt Lake City, Utah 84101

ARCHEOLOGICAL-ENVIRONMENTAL RESEARCH CORPORATION



T. 4 South
R. 1 East

Meridian: Uintah B. & M.

Project: HEC-88-1
Series: Uinta Basin
Date: 6-27-88

MAP 1
Cultural Resource Survey of Ute Tribal Unit No. 13-1 in the Leland Bench Area of Uintah County

Quad:
Randlett, Utah
7.5 minute-USGS

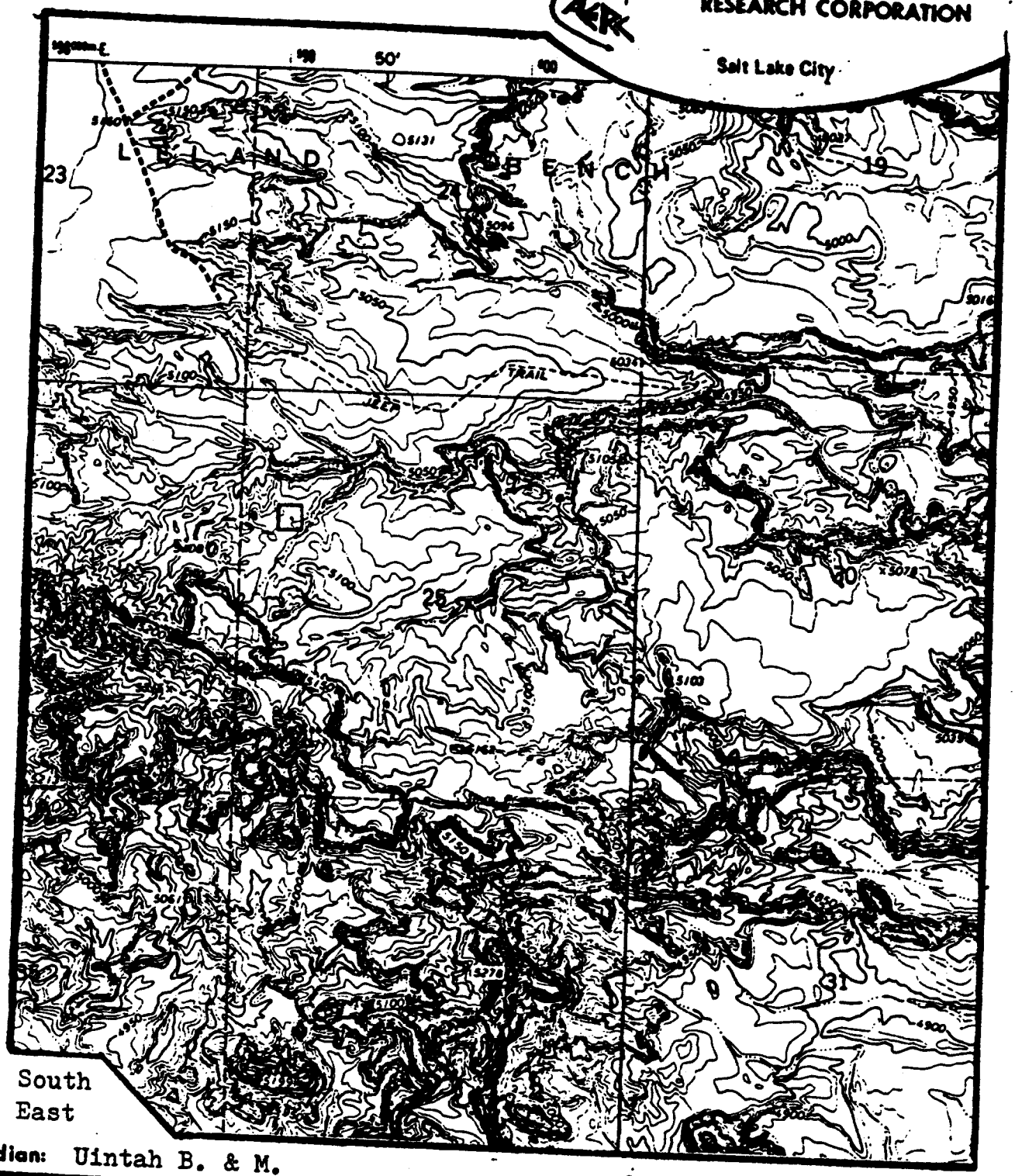
Legend:
Well Location □

N

2.64" = 1 mile

ARCHEOLOGICAL-ENVIRONMENTAL RESEARCH CORPORATION

Salt Lake City



T. 4 South
R. 1 East

Meridian: Uintah B. & M.

Quad: Uteland Butte, Utah 7.5 minute-USGS

Project: HEC-88-1
Series: Uinta Basin
Date: 6-27-88

MAP 2
Cultural Resource Survey of Ute Tribal Unit No. 25-1 in the Leland Bench Area of Uintah County

Legend:
Well Location
Access Route

N

2.64" = 1 mile
Scale

UINTAH BASIN DISTRICT HEALTH DEPARTMENT

Reply To:
Uintah County Courthouse, Rm 20, Vernal, UT 84078 - (801) 781-0770 ☐
Duchesne County Courthouse, Box 210, Duchesne, UT 84021 - (801) 738-5370 ☐
Daggett County Courthouse, Box 156, Manila, UT 84046 - (801) 784-3494 ☐
Roosevelt Branch Office, 57 No. 100 East (83-7), Roosevelt, UT 84066 - (801) 722-5085 ☐

WASTEWATER PERMIT NO.: # 16274A

DRILLING COMPANY: Holden Energy Corp.

DRILLING FOR: L.C. Kay
LOCATION: Ute 13-1
APPROXIMATE DATES: July 1, 1988 to indeterminate

Dear Sir:

Our office has received and reviewed your drilling site wastewater permit application for wastewater disposal at the above location and dates. The information and application appears to be in order and the above referenced permit number will be used pertaining to this permit in all future correspondence.

A compliance inspection will be made by our staff at the earliest convenience after you have commenced operations at the site. Please notify our office if the operational dates differ from those listed on the permit application.

If, at the time of our inspection, wastewater disposal is found to conform with regulations, a letter of approval along with our inspection report will be sent to you and the Division of Oil, Gas and Mining. If wastewater codes are found to be in violation, our report will reflect the same and a five day correction notice will be issued.

If you have any questions, please do not hesitate to call our office.

Sincerely,

Lowell Card
Environmental Health Specialist

LC/skb

UINTAH BASIN DISTRICT HEALTH DEPARTMENT

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UINTAH BASIN DISTRICT HEALTH DEPARTMENT

Wastewater Permit Application for Drilling Sites

FOR DEPARTMENT USE ONLY
Permit #: 16274A
Fee ($55.00) received 55.00
Approved: Lowell Card RS
Date: 6-30-88

DRILLING COMPANY HOLDEN ENERGY CORP **RESPONSIBLE PARTY** L.C. KAY
ADDRESS SUITE 600, LINCOLN CENTER **PHONE NUMBER** (801) 789-1017
ARDMORE, OK 73401
DRILLING FOR UTE AT UTE 13-1
SITE LOCATION NE 1/4 NE 1/4 SEC 13, T4S, R1E, S.L.M.
UINTAH COUNTY, UTAH
APPROXIMATE DATES JULY 1, 1988 **TO** INDEFIANT

SERVICES: **POTABLE WATER** [] YES [] NO, SUPPLIER
CHEMICAL TOILETS [] YES [] NO, SUPPLIER
LIVING OR OFFICE UNITS: BUNKHOUSES
MOBILE HOMES
REC. VEHICLES
TOTAL UNITS 0
TOTAL PERSONNEL AT SITE 8 AT A TIME

WASTEWATER DISPOSAL PROPOSED:

X **HOLDING TANK AND SCAVENGER PUMPING SERVICE** if this system is used, indicate the licensed scavenger employed C & C SANITATION VERNAL, UT 84078

____ **SEPTIC TANK AND ABSORPTION SYSTEM** If this system is proposed, please supply the following information:

1. A soil log prepared by a certified engineer or sanitarian using the unified soil classification system at least four feet below the intended absorption system depth.
2. Indicate the type of absorption system intended
   - [] Absorption field
   - [] Seepage trench
   - [] Seepage pit
   - [] Absorption bed

____ **OTHER** Describe proposal in detail on an attached sheet.

In the space below provide a sketch or drawing of the site indicating:
1. Location of water supply and plumbing
2. Location of living units, offices etc.
3. Proposed wastewater system layout including septic tank or holding tank and absorption system if any.

UNITED STATES GOVERNMENT

memorandum

DATE: July 15, 1988

REPLY TO ATTN OF: Superintendent, Uintah and Ouray Agency

SUBJECT: Holden Energy Corporation - Ute Tribal Well 25-1, and Ute 13-1, located in Section 25, Township 4 South, Range 1 East, U.S.M.; Lease No. 14-20-H62-4376

TO: Bureau of Land Management, Vernal District Office
Attention: Mr. David E. Little, District Manager

We concur with approval of the Application for Permit to Drill subject well.

Based on available information received on July 1, 1988, we have cleared the proposed location in the following areas of environmental impact.

YES X	NO ___	Listed threatened or endangered species.
YES X	NO ___	Critical wildlife habitat.
YES X	NO ___	Archaeological or cultural resources.
YES ___	NO ___	Air quality aspects (to be used only if Project is in or adjacent to a Class I area of attainment)
YES x	NO ___	Other (if necessary)

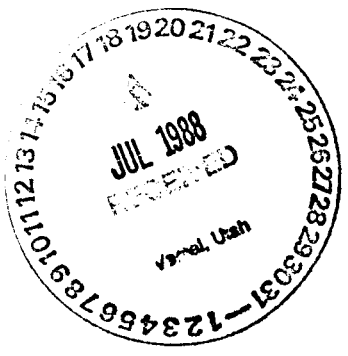
REMARKS: The BIA has concurred with the Tribal stipulations and modifications as listed below to be added to the APD requirements:

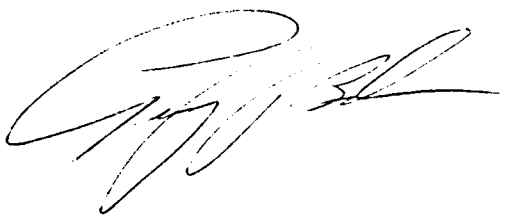
Stipulations on both wells

1. All personnel, vehicular movement and construction should be confined to the area surveyed and to the pre-existing and maintained roadway; and

2. All personnel should refrain from collecting artifacts or from disturbing any cultural resources in the area; and

3. All firearms and weapons of any type will be prohibited from all personnel entering upon any Tribal trust lands, during the construction, drilling and production phases.





OPTIONAL FORM NO. 10
(REV. 1-80)
GSA FPMR (41 CFR) 101-11.6
5010-114
★ U.S. GPO: 1987 — 181-247

CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

WITHIN THE UINTAH OURAY RESERVATION

Company Holden Energy Corporation Well No. UTE 13-1

Location NE/NE Sec. 13 T.4S. R.1E. Lease No. 14-20-H62-4376

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished the field representative to insure compliance.

A. DRILLING PROGRAM

1. Estimated Depth at Which Oil, Gas, Water, or Other Mineral Bearing Zones are Expected to be Encountered:

Report ALL water shows and water bearing sands to Wayne Svejnoha of this office. Copies of State of Utah form, OGC-8-X are acceptable. If noticeable water flows are detected, submit samples to this office along with any water analyses conducted.

Tar sand resources will occur to a depth of ± 1500 ft. from the surface. Any bitumen sand zones greater than 15 ft. thick shall be isolated and/or protected.

All fresh water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling, will be recorded by depth and adequately protected. All oil and gas shows will be tested to determine commercial potential.

2. Pressure Control Equipment

Although the BOP diagram did not depict one to be part of the stack, on annular-type preventer shall be utilized.

The ram-type BOP and related equipment shall be pressure tested to a minimum pressure of 2200 psi. The annular-type BOP and related equipment shall be pressure tested to a minimum pressure of 1500 psi. The pressure tests shall be conducted for at least 10 minutes.

All BOPE configuration will be consistent with API RP 53 and individual components shall be operable as designed. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. BOP equipment shall be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. BOPE pressure tests shall be conducted prior to drilling out the surface casing plug. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Each casing string that has been run and cemented in place shall be pressure tested prior to drilling out the casing plugs.

The Vernal BLM District Office shall be notified, with sufficient lead time, of the BOP test time in order to have a BLM representative on location to witness the pressure testing operation.

3. Casing Program and Auxiliary Equipment

The District Office shall be notified, with sufficient lead time, in order to have a BLM representative on location while running all casing strings and cementing.

4. Mud Program and Circulating Medium

No chromate additives will be used in the mud system on Federal and Indian lands without prior BLM approval to ensure adequate protection of fresh water aquifers.

5. Coring, Logging and Testing Program

Daily drilling and completion progress reports shall be submitted to this office on a weekly basis.

The Mahogany Oil Shale zone has been identified from $\pm$ 4250 - 4340 ft. The cement top for the 7" casing must be at least 200 ft. above the top of this zone. This cement top will be verified with a cement bond log (CBL) or some other means acceptable to the authorized officer.

A Sonic log must be run through the oil shale zone to determine occurrence and depth for resource protection.

All drill stem tests (DST's) shall be accomplished during daylight hours. However, DST's may be allowed to continue at night if the test was initiated during daylight hours, the rate of flow is stablized, and adequate lighting is available, i.e., lighting which is adequate for visibility and vaporproof for safe operations. Packers can be released, but tripping should not begin before daylight.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the authorized officer (AO).

6. Potential Hazards

In the H_2S contingency plan, there are some concerns that further need addressing from the BLM viewpoint:

A. Although within the Emergency Number section the BLM's phone number is listed, under the H_2S Emergency Procedures of the contingency plan, there is no mention of the need to contact the BLM or any other agency. Therefore, upon detection of 10 ppm or more of H_2S, the operator is required to contact one of the persons listed for the BLM. This is to ensure that BLM and BIA Personnel can be forewarned of the conditions that exist upon the drill site.

B. If the warning sign to be posted on the access road to the drill site location has a color-coded flag system to denote the danger level of the operations, upon detection of 10 ppm or greater of H_2S, the flag shall also be changed to indicate the change in working conditions.

C. Although the contingency plan discusses H_2S drills, it is unclear as to when these drills will be performed. These drills will be performed with sufficient frequency prior to entering the formations suspected of containing H_2S so that the rig personnel are Knowledgeable on the use and operation of the H_2S safety equipment.

7. Notifications of Operations

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the AO. If operations are to be suspended, prior approval of the AO will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the AO within 48 hours after spudding. If the spudding occurs on a weekend or holiday, the report will be submitted on the following regular work day. The oral report will be followed up with a Sundry Notice.

In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 3160-6 "Monthly Report of Operations", starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report will be filed, in duplicate, to the Vernal BLM District Office, 170 South 500 East, Vernal, Utah 84078.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported in accordance with the requirements of NTL-3A or its revision.

If a replacement rig is contemplated for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the AO, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.

Should the well be successfully completed for production, the AO will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than 5 days following the date on which the well is placed on production.

Pursuant to NTL-2B, with the approval of a District Engineer, produced water may be temporarily disposed of into unlined pits for a period of up to 90 days. During the period so authorized, an application for approval of the permanent disposal method, along with the required water analysis and other information, must be submitted to the District Engineer.

Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 MMCF following its completion, whichever occurs first, without the prior written approval of the authorized officer. Should gas be vented or flared without approval beyond the authorized test period, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted and the operator shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.

A schematic facilities diagram as required by 43 CFR 3162.7-2, 3162.7-3, and 3162.7-4 shall be submitted to the appropriate District Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in 43 CFR 3162.7 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 43 CFR 3162.7-4.

A first production conference will be scheduled within 15 days after receipt of the first production notice.

No well abandonment operations will be commenced without the prior approval of the AO. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the AO. A "Subsequent Report of Abandonment" Form 3160-5, will be filed with the AO within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the AO or his representative, or the appropriate Surface Managing Agency.

Pursuant to Onshore Oil and Gas Order No. 1, lessees and operators have the responsibility to see that their exploration, development, production, and construction operations are conducted in a manner which conforms with applicable Federal laws and regulations and with State and local laws and regulations to the extent that such State and local laws are applicable to operations on Federal or Indian lands.

8. Other Information

All loading lines will be placed inside the berm surrounding the tank battery.

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the AO.

Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried or anchored down from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. The AO will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Vernal District Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the AO. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5the business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to $10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

APD approval is valid for a period of one (1) year from the signature date. An additional one (1) year approval period may be granted if requested prior to the expiration of the original approval period.

In the event after-hour approvals are necessary, please contact one of the following individuals:

Gerald E. Kenczka Petroleum Engineer	(801) 781-1190
Ed Forsman Petroleum Engineer	(801) 789-7077
Craig M. Hansen Assistant District Manager for Minerals	(801) 247-2318

Revised October 1, 1985

Date NOS Received _____

CONDITIONS OF APPROVAL
FOR THE SURFACE USE PROGRAM OF THE
APPLICATION FOR PERMIT TO DRILL

Company/Operator HOLDEN ENERGY CORPORATION

Well Name & Number UTE No. 13-1

Lease Number _____

Location NE ¼ NE ¼ Sec. 13 T.4S. R.1E.

Surface Ownership Private - Coleman Brothers

B. THIRTEEN POINT SURFACE USE PROGRAM:

1. Planned Access Roads

Location and size of culverts and/or bridges, and brief description of any major cuts and fills - NONE

2. Location of Existing and/or Proposed Facilities

Tank batteries will be placed on the NE corner of location.

3. Methods for Handling Waste Disposal

The reserve pit shall not be lined.

4. Ancillary Facilities

The stockpiled topsoil will be stored between Points 1 and 8.

Access to the well pad will be from the NE side by Point No. 2.

The No. 8 corner of the well pad will not be rounded off; no drainage is near the corner.

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-H62-4376

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Indian Tribe

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Ute 13

2. NAME OF OPERATOR: Holden Energy Corporation

9. WELL NO.: 1

3. ADDRESS OF OPERATOR: Lincoln Center, Suite 600, Ardmore, OK 73401

10. FIELD AND POOL, OR WILDCAT: ~~Green River~~/Wildcat

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 330' FNL 330' FEL NE ¼ NE ¼
At proposed prod. zone: Same

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 13, T4S, R1E, USB&

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 12.0 miles South of Fort Duchesne

12. COUNTY OR PARISH: Uintah — 13. STATE: Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 330'

16. NO. OF ACRES IN LEASE: 80

17. NO. OF ACRES ASSIGNED TO THIS WELL: 80

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1000'

19. PROPOSED DEPTH: 10,000' Wasatch

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5131' GR., (Ungraded)

22. APPROX. DATE WORK WILL START*: 7/15/88

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 ¼"	10 3/4"	40#/ft.	350'	150 sacks Class "H"
6 ¼"	4 1/2" liner back to 6800'	26#/ft.	7000'	360 sacks Class "H" +12% gel
			1000'	

RECEIVED
JUL 20 1988
DIVISION OF
OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Uintah Engineering and Land Surveying for Holden Energy Corporation

SIGNED Laurence C. Kay — TITLE Consultant — DATE 7/8/88

(This space for Federal or State office use)

PERMIT NO. 43-047-31846 — APPROVAL DATE APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING

APPROVED BY — TITLE — DATE 8-1-88

CONDITIONS OF APPROVAL, IF ANY:

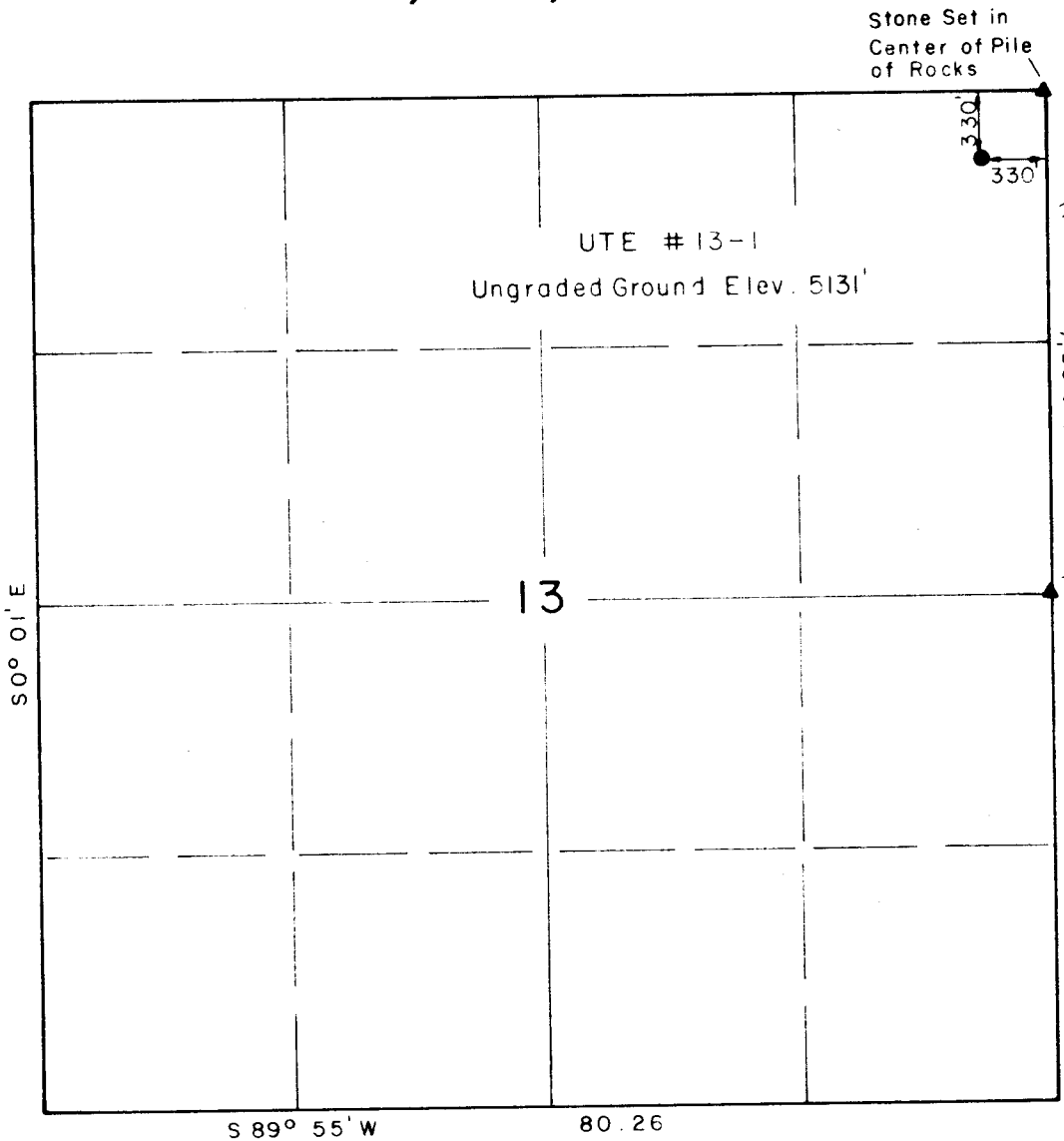
BY: John R. Baza

WELL SPACING: R615-3-3

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the

T 4 S, R I E, U.S.B. & M.



▲ = Located Section Corners

PROJECT

HOLDEN ENERGY CORP.

Well Location, UTE No. 13 - 1, Located as Shown in the NE1/4 NE1/4, Section 13 T4S, R1E, U.S.B.&M. Uintah County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION AT THE NE CORNER OF SECTION 13, T4S, R1E U.S.B.&M. TAKEN FROM THE RANDLETT QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5131 FEET.

N

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 2454
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P O BOX Q — 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 6/6/88
PARTY G.S. J.S. J.A.K.	REFERENCES GLO
WEATHER WARM	FILE HOLDEN ENERGY

Bell SAFETY

CONTINGENCE PLAN

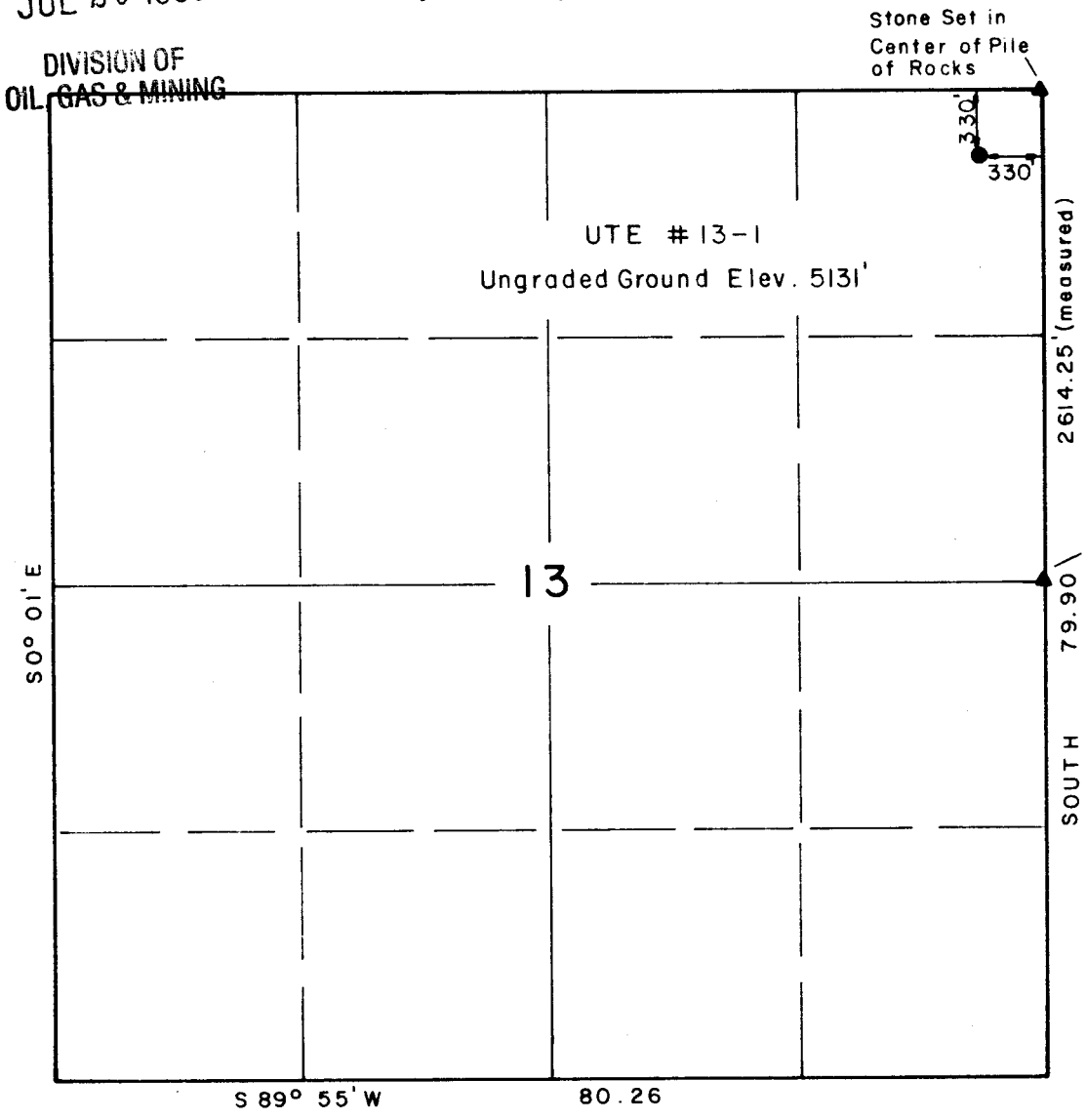
HOLDEN ENERGY CORP.

UTE #13-1
SEC. 13 T4S, R.I.E. USB&N
UINTAH,CO. UTAH

RECEIVED
JUL 22 1988
DIVISION OF
OIL, GAS & MINING

P. O. Box 234 • 303-675-5274 • Rangely, CO 81648

T 4 S, R I E, U.S.B. & M.



▲ = Located Section Corners

PROJECT

HOLDEN ENERGY CORP.

Well Location, UTE NO. 13 - 1, Located as Shown in the NE1/4 NE1/4, Section 13 T4S, RIE, U.S.B.&M. Uintah County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION AT THE NE CORNER OF SECTION 13, T4S, RIE U.S.B.&M. TAKEN FROM THE RANDLETT QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5131 FEET.

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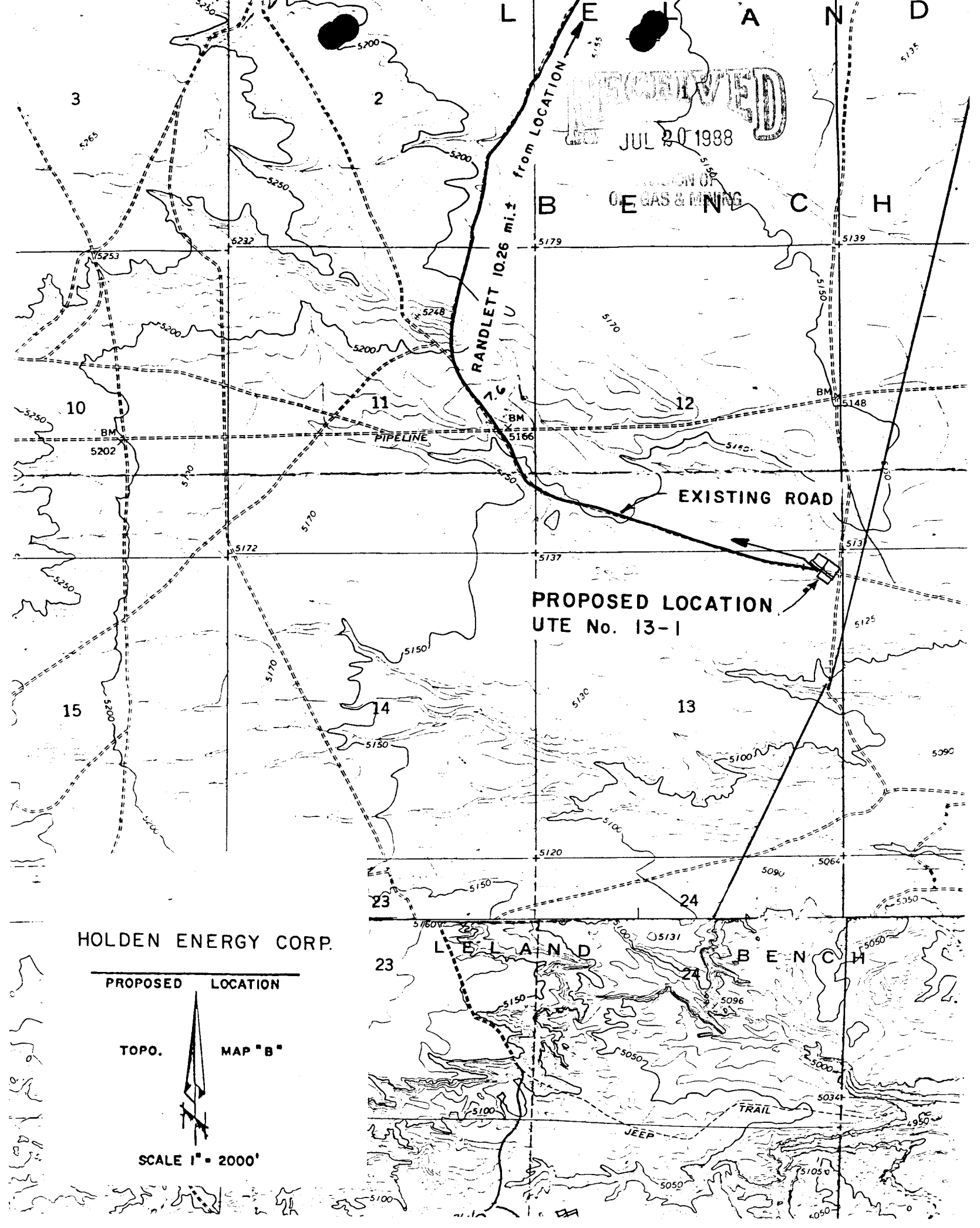
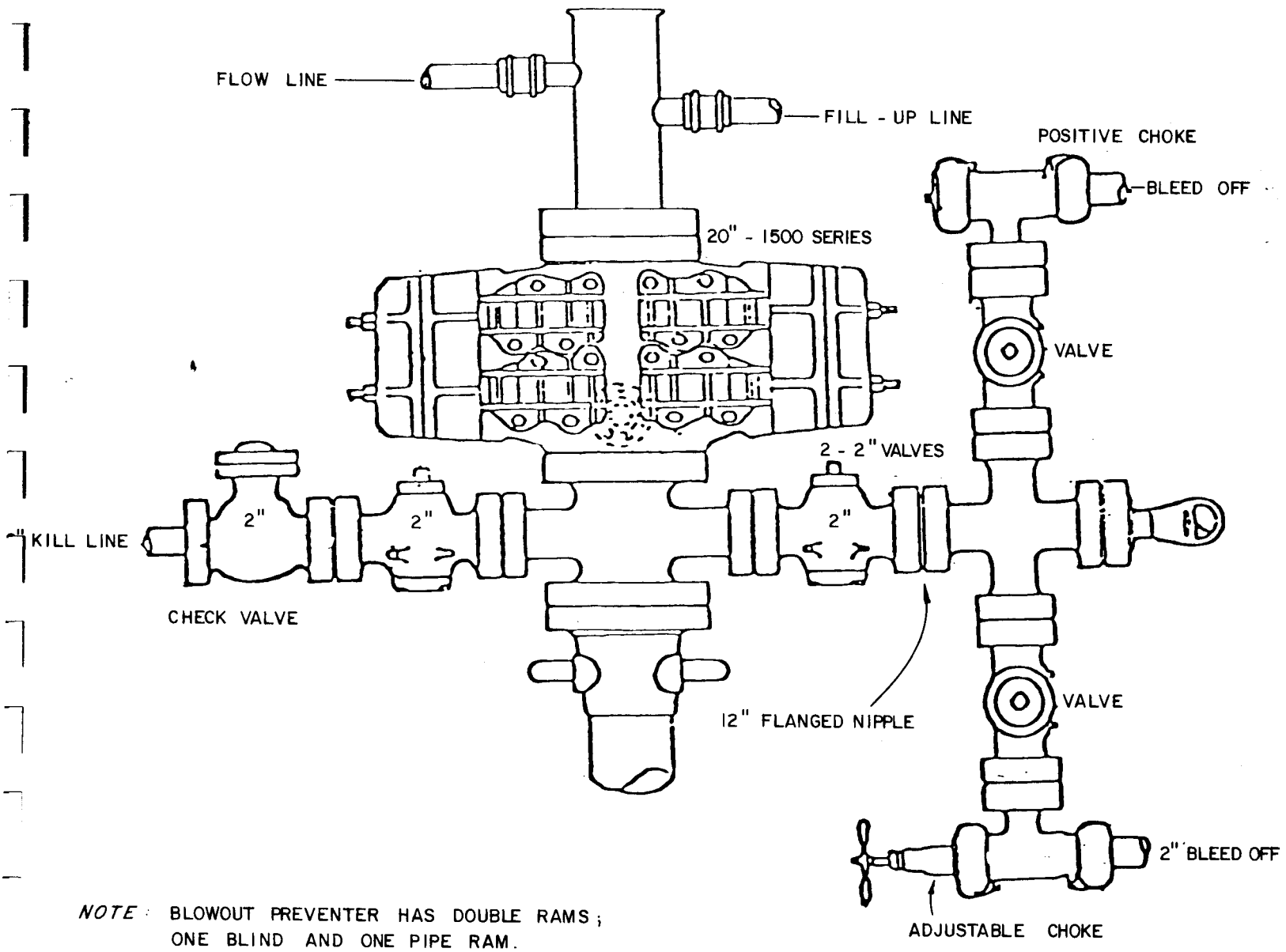
x Nelson G. Treadwell

REGISTERED LAND SURVEYOR
REGISTRATION NO. 2454
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P. O. BOX Q — 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

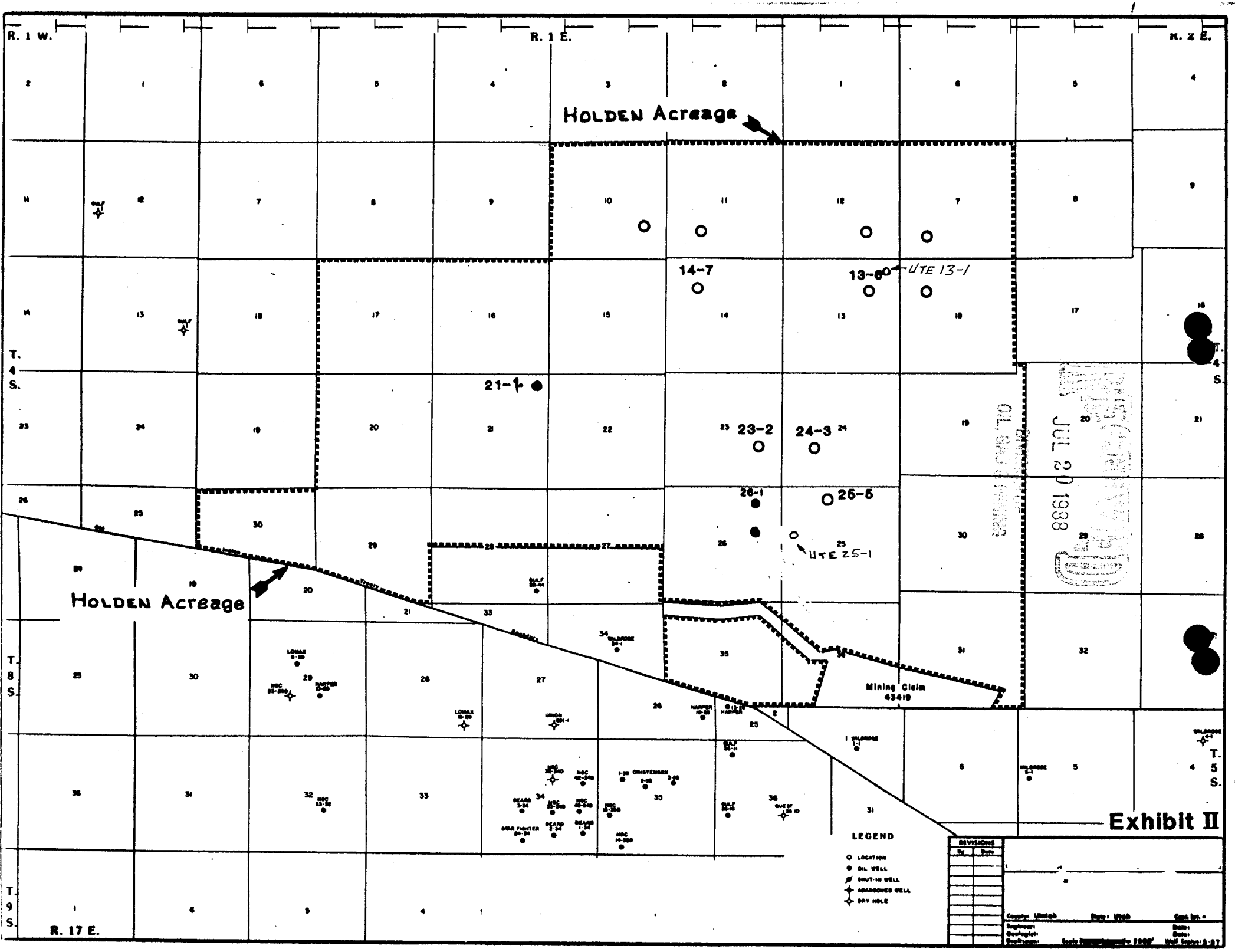
SCALE 1" = 1000'	DATE 6/6/88
PARTY G.S. J.S. J.A.K.	REFERENCES GLO
WEATHER WARM	FILE HOLDEN ENERGY


RECEIVED
JUL 20 1988
DIVISION OF OIL, GAS & MINING
LELAND BENCH
RANDLETT 10.26 mi.± from LOCATION
EXISTING ROAD
PROPOSED LOCATION
UTE No. 13-1
PIPELINE
TRAIL
JEEP
BM 5202
BM 5166
BM 5148
HOLDEN ENERGY CORP.
PROPOSED LOCATION
TOPO. MAP "B"
SCALE 1" = 2000'



NOTE: BLOWOUT PREVENTER HAS DOUBLE RAMS; ONE BLIND AND ONE PIPE RAM.

DIAGRAM "C" - B.O.P.


R. 1 W.
R. 1 E.
R. 2 E.
HOLDEN Acreage
14-7
13-6
UTE 13-1
21-1
23-2
24-3
26-1
25-5
UTE 25-1
HOLDEN Acreage
Mining Claim
43419
T. 4 S.
T. 8 S.
T. 5 S.
T. 9 S.
R. 17 E.
LEGEND
LOCATION
OIL WELL
SHUT-IN WELL
ABANDONED WELL
DRY HOLE
REVISIONS
Exhibit II

COCHRANE RESOURCES, INC.

Engineering
Wellsite Supervision
Lease Operating

P.O. Box 1656
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Phone (801) 722-5081

July 16, 1988

Bureau of Land Management
Vernal District Office
170 South 500 East
Vernal, Utah 84078

Dear Sir:

Please find enclosed the H2S contingence plan for the Holden Energy Ute Tribal 13-1 well. It should be noted that under the Procedure Program (page 2) items 1 thru 6 will be initiated at the start of the well and will be used to the end of drilling. The remaining items will be used if H2S is detected. Likewise under "General" (page 3) items 1 and 3 will be followed during drilling; item 2 will be initiated if H2S is detected.

The safety equipment listed in Appendix I will be in place and all personal will be H2S certified prior to drilling out from under surface csg.

Please advise if you have any questions.

Yours truly,

Ken Allen

OPERATING PROCEDURES

GENERAL

Before this H2S Contingency Plan becomes operational, the Drilling Contractor's personnel, necessary service company personnel, and operators personnel shall be thoroughly trained in the use of breathing equipment, emergency procedures, responsibilities, and first aid. The Operator shall keep a list of all personnel who have been through the special training programs on the drill site.

All personnel shall be given a copy of the "Danger H2S Safety Equipment and Personal Safety" pamphlet. This report summarizes the steps to be taken during the two conditions under which the well may be drilled. It lists general information about toxic gases, explains the physiological effects of H2S classified operating conditions and informs each reader of his general responsibilities concerning safety equipment and emergency procedures. The Company Drilling Foreman shall keep a list of all persons that have read the report and verify they have read it and understand it thoroughly.

All personnel, without exception, when coming on the drill site must proceed directly to the Company Drilling Foreman for assignment of breathing apparatus and to be assured that he has a breathing apparatus. An Instruction and orientation briefing will also be held, if needed.

Upon coming on the drill site, each person shall also pick up a copy of the "Danger H2S Safety Equipment and Personal Safety" and verify that he has read it by signing the last page. The signed page should be forwarded to the Company Drilling Foreman, or his designated Representative.

PRIOR TO DRILLING OUT OF THE INTERMEDIATE CASING

A list of emergency stations and phone numbers of personnel to be contacted will be sent to the rig and should be posted at the following places:

1. Company Drilling Foreman's Office
2. Drilling Contractor's Toolpush Office

PRIOR TO DRILLING OUT OF THE INTERMEDIATE CASING

All safety equipment and H2S related hardware must be set up as required by the Company Operating the Well. (Such as, Location of Briefing Areas, Breathing Equipment, ets.) All Safety Equipment must be inspected routinely paying particular attention to resuscitators and breathing air facilities. Watch out for leaks resulting in frequent bleeding from breathing the air bottles.

PROCEDURE PROGRAM

SAFETY PROGRAM

A. DRILL SITE

1. The drilling rig will be located to allow prevailing winds to blow across the rig toward the reserve pit.

2. Brief stations will be provided with a safety equipment trailer at one or more stations. Personnel will assemble at the most upwind station under alarm conditions, or when so ordered by the Drilling Foreman or the Safety Representative. A wind sock or streamer will be anchored to the trailer.

   A second streamer will be anchored at the end of the catwalk on a pole about 30' high so as to be in easy view of the rig floor and visible at night.

   A separate supply of air cylinders must be located at the opposite side of location than the Safety Unit.

3. Warning signs will be posted on the access road to the location. "NO SMOKING" signs will be posted.

4. One automatic H2S monitor will be provided by the Safety company and the detector will be at the shale shaker. Another automatic detector will be on the rig floor monitoring either on the rig floor or in the logging unit. Should the alarm be shut off to silence the siren, the blinker light must continue to warn of H2S presence. The safety representative will continuously monitor the detector and will reactivate the alarm if H2S concentrations increase to a dangerous level.

5. An escape road will be provided. It is to be used only in an emergency.

6. Do not permit sleeping in cars on location. Maintain a parking area remote from the location preferable on the predominate upwind side of the site.

7. Explosion proof electric fans (bug blowers) will be positioned to insure adequate circulation at all critical locations.

8. Commercial telephone service will be provided, if available.

9. A rig intercommunication system will be provided.

10. A gas trap, choke manifold and degasser will be installed.

11. A kill line, securely anchored and of ample strength will be laid to the wellhead from a safe location. This line is to be used only in an emergency.

B. GENERAL

1. A safety advisor will be available. It will be his duty to conduct safety meetings and training sessions and to be certain all safety equipment needed is installed and operative.

2. A Drilling Foreman and a Contractor's Foreman will be required on location and awake at all times. The Drilling Foreman on duty will have complete charge of the rig operation and will take whatever action is deemed necessary to insure personnel safety, to protect the well, and to prevent property damage.

3. A mud engineer will be on location at all times when drilling at the depth H2S may be expected.

H2S EMERGENCY PROCEDURES

The emergency procedures outlined in this section will be implemented under the following operating conditions:

CONDITION: EXTREME DANGER TO LIFE

If, at any time as much as 10 ppm of H2S is detected, the following steps shall be taken.

1. Driller shall shut down mud pumps and put his mask on.

2. The following personnel shall immediately put on their breathing equipment with the mask.

   a. All personnel on the rig floor
   b. All personnel at the mud pits, and
   c. All personnel required to work below and down wind of rig floor.

3. Notify the Company Drilling Foreman and the Toolpusher that you have H2S on your monitoring system.

4. The mud engineer shall run sulfide determination on the flowing mud.

5. Immediately begin to ascertain the source of the H2S and take steps to suppress the H2S. Drilling will not proceed until the source is determined and the well is circulated. Rig floor and mud pit personnel will keep breathing equipment on while monitoring this circulation.

6. The Supervisors shall make sure all non-essential personnel are out of the potential danger area, mud pit area, mud shack, ets. All persons who remain in potential danger area must utilize the "Buddy System".

7. Have all personnel check their safety equipment to see that it is working properly and in proper location.

8. Check all gas monitoring devices and increase gas monitoring activities with the portable hand operated H2S and Gas Detector Units.

DO NOT PANIC

The Company Drilling Foreman will assess the situation and assign duties to each person to bring the situation under control.

EMERGENCY PROCEDURES AT THE DRILLING RIG

When the H2S monitors activate the siren and blinker light, toxic gas is present.

DO NOT PANIC

1. Put on your gas mask!
2. Render assistance!
3. Follow instructions!

DO NOT PANIC

The Company Drilling Foreman will assess the situation, outline a control program and assign duties.

All work done after H2S is known to be present will be based upon the assessment of this situation.

IGNITING THE WELL

A. RESPONSIBILITY

1. The decision to ignite the well is the responsibility of the Company Drilling Foreman. In his absence incapacity, the Contractor's Foreman will assume all responsibility in their absence or incapacity, the contract driller will be in charge.

2. The decision to ignite the well is to be made as a last resort when it is clear, that.....

   a. There is a definite threat to Human life and Machinery

   b. There is no hope of containing the well under prevailing conditions.

   c. Time and circumstances permitting an attempt will be made to notify the area office. If human life is threatened the decision must not be delayed.

B. INSTRUCTIONS FOR IGNITING THE WELL

1. Two people are required for the initial igniting procedure. Both men will wear self-contained breathing units. Each man will have a retrieval rope around his waist. One man is responsible for checking the atmosphere for explosive gases with an Explosimeter.

The other is responsible for lighting the well. Keep personnel not assigned special duties within the "Safe Briefing Area". Those in the "Safe Briefing Area" will be alert to the needs of the two men assigned to ignite the well. Should either of these men be overcome by fumes, they will immediately pull him to safety by the retrieval ropes.

2. The primary method for igniting the well is a 12 gauge meteortype flare gun. It has a range of approximately 500 feet. If this method fails or well conditions are such that a safer of better method is apparent, then the alternate should be used.

3. If the well is ignited, the burning hydrogen sulfide will be converted to sulfur dioxide which is also poisonous. Therefore,

   DO NOT ASSUME THAT THE AREA IS SAFE AFTER THE GAS IS IGNITED.

   CONTINUE TO OBSERVE EMERGENCY PROCEDURES AND FOLLOW THE INSTRUCTIONS OF SUPERVISORS.

SAFETY EQUIPMENT FOR COMPLIANCE WITH NTL-10

Personal protective equipment must be provided and used. Men who are expected to use respiratory equipment in an area where an emergency would require this protection will be carefully instructed in the proper use and told why the equipment is being used. Careful attention will be given the most minute details in order to avoid possible misuse of the equipment during periods of extreme stress.

Self-contained breathing apparatus provides complete respiratory and eye protection in any concentration of toxic gases and under any condition of oxygen deficiency. The wearer is independent of the surrounding atmosphere because he is breathing with a system admitting no outside air. It consists of a full face mask, corrugated rubber breathing tube, demand regulator, air supply cylinder, and harness. Pure breathing air from the high pressure (2200 psi) supply cylinder flow to the mask automatically through the demand regulator which reduces the pressure to a breathing level. Upon inhalation, air flows into the mask at a rate precisely regulated to the user's demand. Upon exhalation, the flow to the mask stops, and the exhaled breath passes through a valve in the face piece to the surrounding atmosphere. An audible alarm can be added to the apparatus, between the 45 cubic foot cylinder and the high pressure hose, which rings at 400 psi and warns the wearer to leave the contaminated area for a new cylinder of air.

To enable men to work in toxic atmosphere for prolonged periods of time, a hose line with quick disconnect can be attached to the unit connecting it to a 300 cubic foot air cylinder. The installation of a hose bank series manifold on the rig floor connected to a series of 300 cubic foot bottles at a remote location allows both rig crew members and supervisors to remain with "mask on" for an extended period. By having two banks of bottles feeding the floor alternately bottles can be replaced and the time can be extended indefinitely.

The derrickman is provided with a mask unit and 10 minute escape cylinder connected to one or more 300 cubic foot air cylinders through a quick disconnect "T". If evacuation via trolley or ladder becomes necessary, he will also have a full bottle of air in his own self-contained breathing apparatus.

All respiratory protective equipment, when not in use, should be stored in a clean, cool, dry place, and out of direct sunlight, to retard the deterioration of rubber parts. After each use the mask assembly will be scrubbed with soap and water, rinsed thoroughly, and dried. Disinfecting may be accomplished through the use of a Pine Sol compound prior to rinsing. Air cylinders can be recharged to full condition from a cascade system of three 300 cubic foot cylinders, connecting pigtails, and charging hose assembly. Men in each crew will be trained as to the proper techniques of bottle filling.

CONSIDERATIONS DURING THE DRILLING

OF A

HYDROGEN SULFIDE WELL

TABLE A

TOXICITY OF VARIOUS GASES

COMMON NAME	CHEMICAL FORMULA	SPECIFIC GRAVITY AIR 1	THRESHOLD LIMIT 1	HAZARDOUS LIMIT	LETHAL CONCEN-TRATION
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/ 1 hour	300 ppm
Hydrogen Sulfide	H2S	1.189	20 ppm	250 ppm/ 1 hour	600 ppm
Sulfur Dioxide	SO2	2.21	5 ppm	----	1000 ppm
Chlorine	CL2	2.45	1 ppm	4 ppm/ 1 hour	1000 ppm
Carbon Monoxide	CO	9.97	50 ppm	400 ppm/ 1 hour	1000 ppm
Carbon Dioxide	CO2	1.52	5000 ppm	5%	10%
Methane	CH4	0.55	9000 ppm (9%)	Combustible above 5% in air	

1. Threshold - Concentration at which it is believed that all workers may be repeatedly exposed, day after day, without adverse effect.

2. Hazardous - Concentration that may cause death.

3. Lethal - Concentration that will cause death with short-term exposure.

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HYDROGEN SULFIDE

%	PPM	GR/100 SCF	EFFECTS
0.001	10	.65	Obvious and unpleasant odor
0.002	20	1.30	Safe for 8 hours exposure.
0.01	100	6.48	Kills smells in 3 to 15 minutes; may sting eyes and throat.
0.02	200	12.96	Kills smell shortly; stings eyes and throat.
0.05	500	32.96	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration.
0.07	700	45.36	Unconscious quickly; death will result if not rescued.
0.1	1000	64.80	Unconscious at once; followed by death within minutes.

SULFUR DIOXIDE

%	PPM	EFFECTS
.0005	3 to 5	Pungent odor -- normally a person can detect SO2 in this range.
.001	10	Safe for 8 hours exposure.
.0012	12	Throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes.
.015	150	So irritatiing that it can only be endured for a few minutes.
.05	500	Causes a sense of suffocation, even with first breath.

CONSIDERATIONS DURING THE DRILLING OF A SOUR GAS WELL

INDRODUCTION

This memorandum is intended to familiarize you with the conditions that can exist when drilling a well to formations that contain H2S and the precautions Drilling Services have taken in designing the well program and safety program to provide maximum safety.

You should become familiar with all safety equipment on the rig, its use, and availability. The windsocks and windstreamers are provided to know which direction the wind is blowing so that the "SAFE BRIEFING AREA" can be easily defined. You should become wind conscious and observe these wind direction indicators. All persons aboard the rig will receive instructions on the use of safety equipment and on what to do during an H2S emergency. The well will be monitored with H2S continuous monitoring-type detectors.

Drilling operations in known H2S zones, or when H2S has been detected in the drilling fluid or atmosphere, will be performed under three possible conditions:

CONDITION 1: POTENTIAL DANGER

Warning Sign	None
Alarm	Less than 10ppm-none 10ppm-One red light, continuous horn blast.
Characterized By:	Drilling operations under control. Routine drilling operations in zones that may contain Hydrogen Sulfide. This condition will be in effect continuously unless it is necessary to go to Condition 11. This condition remains in effect until H2S is detected and as long as the concentration does not exceed 10 ppm.
General Action:	1. Be alert for a condition change. 2. Check safety equipment for proper functioning. Keep it available.

CONDITION 11: EXTREME DANGER TO LIFE

Alarm	Light flashing and continuous horn blast
Characterized By:	Critical well operations, well control problems, and in the extreme, loss or well control. Poisonous gases may be present at or above threshold levels (as defined under Toxicity of Various Gases).

General Actions:

1. All personnel shall put on their protective breathing equipment. All non-working personnel shall proceed to the safer breathing area. All personnel not required in the well control operations may be evacuated.

2. Follow the instructions of the Drilling Foreman and Supervisors.

3. The Drilling Foreman will initiate emergency action as provided in the Contingency Plan as appropriate.

4. The Drilling Foreman, after consultation with the Drilling Services, will ignite the well if deemed necessary as outlined in the Contigency Plan under "Igniting the Well". Supervisors will conduct any necessary operation with an absolute minimum of personnel. All persons will wear a self- contained breathing apparatus and will restrict their movements to those directed by the Drilling Foreman and Supervisors.

5. If the well is ignited, the burning Hydrogen Sulfide will be converted to Sulphur Dioxide which is also poisonous. Therefore, DO NOT ASSUME THAT THE AREA IS SAFE AFTER THE GAS IS IGNITED. CONTINUE TO OBSERVE EMERGENCY PROCEDURES AND FOLLOW THE INSTRUCTIONS OF THE DRILLING FOREMAN AND SUPERVISORS.

During an emergency, persons should utilize the "Buddy System" to prevent anyone from entering a gas area alone whether he is using breathing equipment or not. If a person is overcome by H2S, do not attempt to rescue him without a "Buddy" standing by. A retrieval rope would be used before entering a contaminated area. If you are wearing a mask, do not remove it until you are absolutely certain the air is safe to breath. If a sudden gas release occurs without warning, you should:

1. Hold you breath and rapidly evacuate the area containing the H2S. Move upwind, if possible.

2. Put on a mask.

3. Help anyone who may be affected by gas. NOTE: Put on your breathing equipment before helping anyone overcome by H2S. Then take him to a safe area and administer oxygen.

4. Evacuate quickly to the "SAFE BRIEFING AREA" to receive instructions from the Drilling Foreman.

5. DO NOT PANIC

The Oil Company intends to keep all formations overbalanced so that no intrusion of gas will occur. However, we have provided plans in the event of an emergency so that we will be able to handle one with a minimum of trouble. If you are on the rig during Operating Conditions 1 &11, it is essential that you follow the instructions of the Supervisors.

Copies of the "H2S Contingency Plan" are available from the Drilling Foreman. This plan sets out precautionary measures, safety equipment, emergency procedures, responsibilities and duties pertaining to the drilling of a sour gas well. All personnel should become familiar with the contents of the plan and afterwards should sign the log in the Chart Room indicating that they have read and do understand the plan. Paricular attention should be paid to the following topics:

1. H2S EMERGENCY PROCEDURE
2. RESPONSIBILITIES AND DUTIES
3. RIG LAYOUT-LOCATION OF BRIEFING AREA, BREATHING EQUIPMENT, ETC.

TOXICITY OF VARIOUS GASES

The Table A lists various gases and the concentrations at which they become dangerous.

PROPERTIES OF GASES

The produced gas will probably be a mixture of carbon dioxide, hydrogen sulfide, and methane.

Carbon dioxide (CO2) is usually considered inert and is commonly used to extinguish fires. It is heavier than air (1.5 times), and CO2 will concentrate in low areas of quiet air. Humans cannot breathe are containing more than 10% CO2 without losing consciousness. Air containing 5% CO2 will cause disorientation in a few minutes. Continued exposure to CO2 after being effected will cause convulsions, coma and respiratory failure.

The threshold limit of CO2 is 5000 ppm. Short-term exposure to 50,000 ppm (5%) is reasonable. This gas is colorless and odorless and can be tolerated in relatively high concentration.

HYDROGEN SULFIDE

Although the slightest presence of H2S in the air is normally detectable by its characteristic "rotten egg" odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost,

allowing lethal concentrations to be accumulated without warning. The Table B indicates the poisonous nature of hydrogen sulfide, which is more toxic than carbon monoxide.

Hydrogen Sulfide itself is a colorless and transparent gas and is flammable. It is heavier than air, and hence, may accumulate in low places.

SULPHUR DIOXIDE

Sulphur Dioxide (SO2) is produced during the burning of H2S. Although SO2 is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures. While sulphur dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect. The Table C indicates the toxic nature of the gas.

Sulphur Dioxide is a colorless, transparent gas and is non-flammable.

BUDDY SYSTEM

In this manual, reference is made to the "Buddy System". This means that personnel should watch out for each other and, when possible, should work in pairs. While Dirlling Operations have made extensive preparations for your safety, you should be aware of first aid procedures in the event someone else becomes careless. First aid for H2S victims is based primarily on rescue breathing and include:

A. Move victim for fresh air at once. Don't jeopardize your safety, wear a mask then get a mask on the victim.

B. If the victim is unconscious and not breathing - take him at once to the Safe Briefing Area and apply mouth-to-mouth artificial respiration without interruption until a resuscitator is available. Use the resuscitator until normal breathing is restored. Symptoms may pass off rapidly, however, keep the victim warm and take him for medical attention.

BREATHING EQUIPMENT DRILLS FOR ON SITE PERSONNEL

NOTE: This drill shall include the following personnel:

1. Rig Crew and Roustabout
2. Pusher and Roustabouts assigned to essential duty during an emergency
3. Mud Logger
4. Mud Engineer
5. Drilling Services Toolpusher
6. Oil Company's Foreman

A drill, with breathing equipment, will be conducted once a week with each crew, including the Mud Logger and Mud Engineer. The purpose of the drill is to instruct the crews in the operation and use of breathing and H2S related emergency equipment and to allow them to become acquainted with using the equipment under working conditions. The crews should be trained to put on breathing equipment within one minute after H2S emergency has been alerted.

The following procedure shall be used for the first few weekly drills until the Drilling Foreman is satisfied that the crews are proficient with the equipment. (Note: This drill will be made only while the bit is inside the casing. It is to be conducted as outlined under "Emergency Procedures - Condition 111 of the Contigency Plan").

1. All personnel on the rig shall be informed that a drill will be given.

2. A qualified person shall initiate the drill by manually activating the alarm system for Condition 111.

3. The Driller shall shut down the mud pumps and continue to rotate the drill pipe while all crew personnel put on their breathing equipment. The Mud Logger, Mud Engineer, Toolpusher, and Oil Company Personnel should put on their breathing equipment. The Driller should put on his breathing equipment and connect to the supplies air from the cascaded air supply.

4. Once breathing equipment is on, the Driller shall pick up the Kelly and check for flow.

5. The Driller shall proceed as if the well was flowing; simulate well shut-in procedures as shown on the well control procedure chart of Contingency Plan.

6. The Mud Logger shall continue to monitor his equipment with his breathing equipment.

7. The Mud Engineer shall perform a test on the flowline for mud weight and funnel viscosity and run a GGT Test on the mud to check to determine the sulfide concentration. This part of the drill is important because we want to make it a standard practice that a GGT Test be run every time anything unusual happens.

8. During the drill,the Drilling Foreman and Toolpusher will observe the work and make sure that everyone is using his equipment properly.

Note: 1. Once the Drilling Foreman is satisfied that personnel are proficient with the breathing equipment, and H2S emergency procedure, he may conduct a weekly minimal drill where the breathing equipment is only put on and checked for operation.

Note: 2. A record of attendance shall be kept for these weekly drills and shall also be included on daily tour sheet.

BREATHING EQUIPMENT DRILLS AND TRAINING SESSIONS FOR OFF-DUTY PERSONNEL

NOTE: To Include: All personnel on the rig, except on-duty rig crew, Mud Logger, Mud Engineer, and Toolpusher.

An H2S drill and training session shall be given once a week to all off duty personnel. This training will be conducted to instruct personnel in the operation and use of breathing and H2S related emergency equipment and to review various operating procedures in the "H2S Contingency Plan".

Initial drills shall include:

1. General information about the breathing apparatus which shall include length of time it can be worn, warning signals when pressure is depleting, packing and storage procedures, etc.

2. How to put the mask on and test for leaks around face and hose connection.

Initially, these drills shall be conducted as often as necessary to acquaint the crews with the equipment. After the Drilling Foreman is convinced that all personnel are trained, a weekly drill shall be conducted. This drill may be initiated at any time. Prior to the drill, the Rig Crew on duty must be informed that it is only a practice drill. The drill will be initiated by the "Condition II" warning signal. At this time, all off duty personnel will immediately get their assigned gas masks on, and report to the "Safe Briefing Area" , which will depend on the wind direction. Personnel should be trained to report to the "Safe Briefing Area" with their emergency equipment within five minutes after the alarm is sounded.

A weekly training and information session shall be conducted after the drill to answer any H2S related questions and to cover one or more of the following:

a. Condition I and II alert and steps to be taken by all personnel.

b. Make personnel conscious of the importance of wind direction when dealing with H2S.

c. Proper use of all types of breathing equipment.

d. Proper use of oxygen resuscitators.

e. Proper use of H2S detectors.

f. The "Buddy System" and the procedure for rescuing a person overcome by H2S.

g. Resposibilities and duties.

h. Location of H2S Safety Equipment.

i. Other parts of the "H2S Contingency Plan" that should be reviewed.

NOTE: A record of attendance shall be kept for weekly drill and training sessions. These drills and training sessions shall also be included in the morning drill reports.

Some of the Key Items OSHA Compliance Officers Look For at a Drilling Rig

1. Class I, Div. I, wiring and lighting, i e., explosion-proof fixtures on drilling floor and in doghouse. Condition of of wiring around rig.
2. Electrical grounding of wiring and electrical devices.
3. Rotary table guard.
4. Sharp teeth on tongs.
5. Wire rope accured with clips (adequate #) properly.
6. Condition of hoisting line and frequently of removal of deteriorated line.
7. Removal of slippery substances from drilling floor.
8. Guard rails on drilling floor and stairs.
9. Ladder safety climbing devices for use of derrickman.
10. Use of lanyard and safety belt by derrickman.
11. Proper installation of geronimo line and carriage.
12. Proper stacking of drill pipe; supports for pipe.
13. Spark arrestors on diesel (or gas) engines.
14. No riding of elevator.
15. Condition of girts on derrick.
16. Presence of H_2S detector heads as shale shaker, mud tanks, cellar, and drilling floor. Audible, visual alarm for system. Wind sock to show wind direction. H_2S evacuation training and practice for evacuation.
17. H_2S respirators for all employees and others who visit site.
18. H_2S system and precautions applicable to known sour crude areas and all wildcat operations.
19. Respirators, face shield, goggles, rubber gloves, rubber apron, rubber boots available and used for those mixing mud with caustic chemicals, asbestos, acids.
20. Blowout preventor shutdown valve located as specified by API and IADC.
21. BOP practice drills, documentation of same.
22. Training of employees in emergency operations, document.
23. Proper storage of fuels, proper distances from drilling site.
24. Guard rails at mud tanks.
25. Guard rails or rope around reserve pit.
26. CPR training for at least one man on rig at all times.
27. Designation of authorized smoking areas and signs to denote nonsmoking areas.
28. Adequate guarding of moving parts of machinery, i.e., belts, pulleys, shafts with projecting coupling collars, etc.
29. Guarding of cathead.
30. Standard railing around crown sheave (pulley), stabbing board.
31. Hard hats and safety goggles used by all of drilling crew.
32. Safety belts and lanyards free of defects.
33. Catwalk between pipe tubs or racks in good shape.
34. Permanent piping to doghouse for use of propane for heating, no jerry rig lines.
35. Securing of equipment, such as BOP when in pre-installation.
36. Procedures for drill stem test, i.e., no exposed flames, no ignition sources present, no smoking.
37. Steel-toed safety shoes for all crew members. Should have built-in metetarsal guards.
38. Securing kelly hose at both ends with chain.
39. No electrical cable laying on ground unless they are steel-jacketed.
40. Active safety program. If one is present and documented, OSHA considers this as a "good faith" effort by employer
41. Means to transport injured to medical facilities to include stretcher and necessary accoutrements.
42. First aid supplies.
43. State inspected/certified boilers

Rotary Rig Safety Inspection Checklist

Drilling Company

Rig No. _____ Tour: _____ Date: _____

Check all equipment listed below if used on rig being inspected.
Check ( ) if O.K., check ( ) if item needs action. Check "Corr." when corrected.

	O.K.	Corr.		O.K.	Corr.
Rig signs out	( )	( )	Pipe baskets	( )	( )
OSHA Poster posted	( )	( )	Drill pipe	( )	( )
OSHA Form 100, Log up-to-date	( )	( )	Drill collars	( )	( )
Emergency Phone Number card	( )	( )	Engines	( )	( )
Emergency aid provisions	( )	( )	Belt guards	( )	( )
Radio	( )	( )	Drive guards	( )	( )
Rig toilet facility	( )	( )	Pump belts	( )	( )
Crew drinking water	( )	( )	Start engines	( )	( )
All hands instructed or in-			All belts	( )	( )
training program	( )	( )	Kelly hose	( )	( )
Crew safety meeting held	( )	( )	Load lines	( )	( )
Company safety manual on rig	( )	( )	Wire rope, slings and clips	( )	( )
Fire extinguishers	( )	( )	Fuel lines	( )	( )
First aid kits	( )	( )	Fuel tank	( )	( )
Trained First Aiders on each tour	( )	( )	Trailer House	( )	( )
Dog House housekeeping	( )	( )	All high press fittings & lines	( )	( )
Tool House housekeeping	( )	( )	B.O.P. shield	( )	( )
General housekeeping	( )	( )	Welding equipment	( )	( )
Safe access to all areas	( )	( )	Condition of brake	( )	( )
Hard hats	( )	( )	Condition of clutch	( )	( )
Safety shoes	( )	( )	All air valves	( )	( )
Safety goggles	( )	( )	Air compressors	( )	( )
Hearing protection	( )	( )	Water lines for fire	( )	( )
Condition of hand tools	( )	( )	Water truck	( )	( )
Hammer handles	( )	( )	Shear relief valves/cover	( )	( )
Chisel heads	( )	( )	Mud hopper	( )	( )
Wrenches	( )	( )	Cellar clean	( )	( )
Condition of cathead(s)	( )	( )	Dead line	( )	( )
Spinning line(s)	( )	( )	Dead line clamps	( )	( )
Condition of slips	( )	( )	Condition of base	( )	( )
Condition of dogs	( )	( )	Condition of shoes	( )	( )
Condition of tongs	( )	( )	Condition of pins	( )	( )
Condition of tong dies	( )	( )	Condition of derrick	( )	( )
Safety line on rotary hose	( )	( )	Mast bolts tight	( )	( )
Drilling line	( )	( )	Sheaves & crown	( )	( )
Cat line & sheave	( )	( )	Crown platform & railing	( )	( )
Monkey board	( )	( )	Rig ladder	( )	( )
Safety belt	( )	( )	Climbing safety device and belt	( )	( )
Escape line, trolley	( )	( )	Ladders, portable	( )	( )
Escape line anchor	( )	( )	Electric lines	( )	( )
Floors -- free of holes	( )	( )	Bulbs guarded	( )	( )
Floor railing	( )	( )	Drop cords	( )	( )
Hand rails	( )	( )	Lights	( )	( )
Walks	( )	( )	Light plant	( )	( )
Stairs and stair rails	( )	( )	Terminals	( )	( )

To be completed by Driller first tour after rig-up.
Mark out items not applicable on rig.
Describe specific problems on back.

INSPECTED BY _____
PUSHER _____
RECEIVED IN OFFICE: _____

Safety Check List
Land Rigs

YES or NO

PIPE RACKS AND ADJACENT AREAS

_____ 1. Is condition of the pipe racks satisfactory?
_____ 2. Do pipe racks have sufficient matting?
_____ 3. Are cat walk boards in good condition?
_____ 4. Is pipe ramp in good condition?
_____ 5. Is lighting system sufficient in this area?
_____ 6. Is any method used for chocking pipe on pipe racks?
_____ 7. If so, is it satisfactory?
_____ 8. Is good housekeeping being practiced throughout this area?

SUBSTRUCTURE

_____ 9. Are all beams in place?
_____ 10. Are all necessary bolts, pins and retainer pins in place?
_____ 11. Are there any excessive bent places in any of the beams?
_____ 12. Are all bolts and tie-downs tightened securely?
_____ 13. Is there excessive oil on matting boards?
_____ 14. Are air tanks in structure being drained each tour?
_____ 15. Is the general appearance of the substructure good?
_____ 16. Are there sufficient lights for this area?
_____ 17. Are lighting fixtures in good condition?
_____ 18. Is good housekeeping being practiced throughout this area?

BOP'S AND MANIFOLD

_____ 19. Are all bolts and nuts in casing head, BOP's and flanged openings?
_____ 20. Are BOP's being opened and closed regularly?
_____ 21. Is the remote control unit and accumulator in good condition?
_____ 23. Are there any leaks in lines to BOP hook-up?
_____ 24. Are ram handles and wheels hooked up to BOP's?
_____ 25. Are ram handles and wheels hung so they will turn freely?
_____ 26. Are there any low pressure connections in BOP hook-up?
_____ 27. Are discharge lines anchored down?
_____ 28. Are BOP's snubbed off properly to center the rotary hole?

MUD TANKS AND SHALESHAKER

_____ 29. Are all lights, light sockets, and terminal boxes satisfactory?
_____ 30. Are guards over belts on shaleshaker and end of vibrator shaft?
_____ 31. Are gun lines and jet lines made up of high pressure connections?
_____ 32. Are there control handles on mud guns?
_____ 33. Is caustic mixing barrel rigged safely?
_____ 34. Are goggles available?
_____ 35. Are walkways and handrails around tanks in good condition?
_____ 36. Are steps in satisfactory condition?
_____ 37. Is good housekeeping being practiced throughout this area?

MUD PUMPS AND MUD MANIFOLD

_____ 38. Are all necessary guards in place?

39. Are shear relief settings within maximum working pressure of pump?
40. Are shear relief valve covers in place?
41. Are there any missing studs or nuts on pumps?
42. Are down-stream lines on pump snubbed down?
43. Is working area around pumps satisfactory?
44. Are all lights, light sockets, terminal boxes in good condition?
45. Are hand tools in good working order?
46. Is good housekeeping being practiced throughout this area?

AUXILIARY HOUSES

47. Are all necessary guards in place?
48. Is there a relief valve on air tank and is it working properly?
49. Are air tanks being drained each tour?
50. Are air tanks and drain valves in good condition?
51. Is switchboard in satisfactory condition?
52. Is there excessive oil and grease on floor and under engines?

CLOTHES CHANGING & TOOL HOUSE

53. Is good housekeeping being practiced inside house as well as adjacent area?

ENGINE AREA & RIG FLOOR

54. Are all necessary guards in place?
55. Does engine exhaust have either spark arrester or water tied into exhaust?
56. Are all steps and handrails leading from rig floor to ground level in good condition?
57. Are steps and handrails from rig floor to engine level in good condition?
58. Are steps retainer bolts in top section of each set of steps?
59. Are all handrails in good condition?
60. Are there any tools being hung on top section of handrails?
61. Is the floor around the rotary table in satisfactory condtion?
62. Is tar paper or cocoa mats provided around rotary table?
63. Are rotary tongs in satisfactory condition?
64. Do tong weight buckets or tong lines have junk iron attached?
65. Are tongs snubbed properly and tong snub lines in good condition?
66. Is break-out line on lead tongs of proper length?
67. Are timbers in good condition where pipe is racked?
68. Is condition of derrick floor in satisfactory condition?
69. Are all floor wings supported properly and retainer bolts in place?
70. Are catheads provided with catline divider?
71. Are catheads in satisfactory condition and not grooved?
72. Is catline in safe working condition?
73. Is air hoist (brakes, hand control, line guide, hoist line) in good condition?
74. Is there a line guide on air hoist?
75. Is there sufficient amount of First Aid material available?
76. Does Toolpusher have a Doctor list and First Aid list of materials in trailer?
77. Are there visitors hats available on this rig?
78. Is good housekeeping being practiced throughout this area?
79. Is inside BOP working and on the floor?

DERRICK

_____ 80. Is derrick ladder in good condition?

_____ 81. Is the monkey board in satisfactory condition?

_____ 82. Is safety belt on monkey board in good condition?

_____ 83. Is water table run-around in good condition?

_____ 84. Is the condition of lines for derrick climber satisfactory?

_____ 85. Is derrick climbing equipment anchored properly in derrick?

_____ 86. Is condition of derrick climbing belt satisfactory?

_____ 87. Is condition of sheaves satisfactory, anchored at crown properly?

_____ 88. Is crown area free of excessive grease?

_____ 89. Are all girts and braces in derrick in satisfactory condition?

_____ 90. Are all girts and braces sufficiently bolted down?

_____ 91. Are tong lines or other lines anchored to braces or girts?

_____ 92. Are stand-pipes properly braced to derrick?

_____ 93. Is derrick lighting system strung properly?

_____ 94. Are all light fixtures explosion-proof?

_____ 95. Is derrick lighting sufficient?

_____ 96. Are rotary hoses snubbed off properly at standpipe area?

_____ 97. Is rotary hose that is being used snubbed off at swivel?

_____ 98. Is derrick free of any loose objects?

_____ 99. Is line guide equipment in good condition?

_____ 100. Is there a windbreak for monkey board?

_____ 101. Is stabbing board in good condition and well secured to derrick?

GENERAL INFORMATION

_____ 102. Is housekeeping in general - excellent, good or bad?

_____ 103. How many fire extinguishers on job and are they in good condition?

_____ 104. Is miscellaneous auxiliary equipment in good condition?

_____ 105. Are welding machine, leads, and holders in good condition?

_____ 106. Are cutting rig, hoses, regulators, gakuges, and torch in good condition?

_____ 107. Are extra bottles and empties well secured in rack?

_____ 108. Do all bottles have caps?

_____ 109. Are hard hats and steel toe boots being worn by everyone?

_____ 110 Are there any unsafe practices being observed?

_____ 111. Are crews having regular safety meetings?

RECOMMENDED PRACTICES AND

CHECKLISTS FOR DRILLING OPERATIONS

IN AREAS WHERE H_2S IS A POTENTIAL HAZARD

DRILLSITE LOCATION

1. The rig will be situated on the location such that prevailing winds blow across the rig toward the reserve pit or at right angles to a line from the rig to the reserve pit.

2. The entrance to the location will be designed so it can be barricaded if Hydrogen Sulfide emergency conditions arise. Appropriate warning signs and flags will be placed at the location entrance.

3. A minimum of two (BRIEFING AREAS) will be established in such locations that at least one area will be upwind at all times. These areas will be 200 feet from the well head. Upon recognition of an emergency situation, all personnel will assemble at the areas to don their protective breathing equipment.

4. A Safety Equipment Trailer will be located in the SAFE BRIEFING AREA.

5. Windsocks and wind streamers will be placed on the location in a manner that they are visible from all points of the location. A windsock will be placed at the entrance of the location to be checked before entering the location, visible from V door and 180 degrees from it.

6. The mud tank will be located so as to minimize the danger from gas that breaks out of the drilling fluid.

7. Electric power plants will be located as far from the wellbore as practical so that it may be used under conditions where it would otherwise have to be shut down.

8. All windbreakers and rig curtains will be removed from around the derrick floor and monkey board, regardless of weather conditions, when working in any zone which may contain Hydrogen Sulfide.

9. When working at a depth where Hydrogen Sulfide may be encountered, appropriate warning signs will be posted on all access roads to the location and at all stairways leading to the derrick floor.

10. Appropriate smoking areas will be designated and smoking will be prohibited elsewhere.

11. On the rig, by the radio, will be posted a list of current emergency telephone numbers.

12. Reliable 24-hour radio and/or telephone communication will be available at the rig.

13. There will be a secondary escape route from the location opposite from the direction of prevailing winds.

14. (H_2S) detector locations (should at least include cellar and mud tanks at shale shakers).

SPECIAL EQUIPMENT

1. Two flare lines will be laid at a 90-degree angle from the well to facilitate flaring as necessary.

2. Blowout preventors and choke manifolds will be (H_2S) trim.

3. An automatic (H_2S) monitor will be installed with both visual and audible alarms located where it can be seen and/or heard throughout the drilling location. The visual alarm will be set to trigger at 10 ppm of (H_2S), and the audible alarm will be set to trigger at 20 ppm of (H_2S).

4. There will be enough safety equipment, breathing air-packs for 21 men.

5. It is advised an adequate (H_2S) scavenger material be on location. It is to be added to mud system if any trace of (H_2S) is detected.

INSTRUCTIONS TO PERSONNEL WHERE HYDROGEN SULFIDE MAY BE ENCOUNTERED

1. Every person involved in the operation will be informed of the characteristics of Hydrogen Sulfide, its dangers, safe procedures to be used when it is encountered and recommended first-aid procedures for regular rig personnel.

2. The (H_2S) Supervisor will conduct training sessions and will repeat as deemed necessary by him or as instructed by the Drilling Foreman.

3. INSTRUCTIONS WILL INCLUDE THE FOLLOWING:

   a. Danger of Hydrogen Sulfide

   b. Use and limitation of air equipment

   c. Use of resuscitator, organization of "Buddy System" and first-aid procedures.

   d. Use of (H_sS) detection devices: designation of responsible people.

e. Explanation of rig layout and policy on visitors, designation of smoking areas, emphasis of the importance of wind direction.

f. Explanation of the functions of (H_2S) Supervisor.

g. Explanation and organization of (H_2S) Drill.

h. Explanation of the overall emergency plan with emphasis given to the evacuation phase of the plan.

4. The above instructions will be attended by every person involved in the operation.

5. Visitors will be instructed to report to the DRILLING FOREMAN.

6. Visitors will be refused entrance for lack of Safety Equipment. If special operations are in progress, or for other reasons involving safety.

CHECKLIST FOR BLOWOUT PREVENTION PROGRAM

1. Is there a set of drawings available to the rig showing the BOP stack, lines, valves and manifolds required for assembly?

2. Do all items meet or exceed the pressure ration of the assembly?

3. Is assembly rating equal to or greater than casing burst pressure or formation breakdown pressure, whichever is lesser?

4. If the master rams are closed, is it possible to pump into the well?

5. Are casing head connections tied to choke manifold?

6. Are choke discharge lines manifold and arranged so that fluids can be discarded, gas separated safely or mud recovered and degassed?

7. Will the degassing system handle all mud at necessary flow rates?

8. Can gas separated from the mud be safely discharged or flared?

9. Can rams be locked in closed position from outside substructure?

10. Does an alternate or isolated source of power exist so that accumulator can be recharged should gas be leaking around rig?

11. Does the stack have clearance for tool joints between preventors so pipe can be stripped in the hole?

12. Is an inside BOP available on the rig floor for closing inside of drill pipe and can it be manually stabbed?

13. Is an inside BOP available on the rig floor for closing inside of drill collars and can it be manually stabbed?

14. Can the collars be fastened down quickly?

15. Are relief lines of large capacity available, if needed to hold pressure down on surface casing?

16. Are choke discharge lines as straight as practical, heavy duty, and well-anchored and supported?

17. Are choke flow lines and valves well-supported and anchored?

18. Can all necessary manipulations of the BOP assembly be made without going under rig floor?

19. Is the stack flanges and connections protected during moving?

20. Are stacks well anchored and can it be aligned conveniently, if necessary.

21. Are there master valves on the choke flowline and each choke manifold wing and these used for closure to allow downstream repairs?

22. Is there a fill-up line separate from the kill line and is it normally used?

23. Is the choke flowline straight or has only sweeping bends?

24. Are sufficient variable chokes available with a ration to handle expected pressures?

25. Are there both floor-mounted and remote accumulator controls and are these clearly labeled?

26. Are the off-floor controls effective if the floor unit is destroyed?

27. Can rams be closed without losing pressure to the Hydril?

28. Are control lines of pressure rating equal to accumulator pump pressure capability or adequately protected by relief lines?

29. Do accumulator pumps automatically recharge accumulator?

30. Are BOP control lines positioned low so that they are not likely to be destroyed quickly by fire?

31. Is the kelly cock wrench available and easily found?

32. Are extra parts for chokes on hand?

33. Is there a totalizing pit indicator and recorder mounted in easy view of the Driller?

34. Is there a flow indicator for out-of-the-hole conditions or can the flowline discharge be seen from the rig floor?

35. Does rig have a pump stroke counter for use in critical hole filling checks?

36. Is there a boll weevil plug available for testing BOP's?

37. Is a test joint and packer available for testing the top joints of casing?

38. Are extra ring gaskets, bonnet sealing rings and BOP flange bolts on hand?

39. If procedures required, is a kelly cock test sub on hand?

Testing and Maintenance

1. Is there available a step-by-step set of illustrations showing how to test all BOP items, including top casing joints, in a minimum number of steps?

2. Are these steps followed after each nipple-up and at specified intervals thereafter? What intervals_____

_____

3. Is a drawing available showing how to test the more critical items of BOP equipment and is this done after each approximate 48-hour drilling period or other specified interval? What Other intervals_____

_____

4. Have the preventors been shopped in the past year?

5. On each trip are the ram-type BOP's operated and all kill and choke lines flushed?

6. Are valve handles attached?

7. Can all preventors be closed in 19 seconds or less with pumps off and with a remaining accumulator volume of 50 per cent of original at a pressure of 1200 psi?

8. Have wireline lubricators been tested to maximum expected pressure?

9. Are recommended closing pressures for Hydril on the drill pipe in use, known and used when the Hydril is tested?

PROCEDURES

1. Is there a specified procedure for hole filling (number of stands) and is this done 4 - 5 times as often when drill collars are pulled?

2. Does crew check for hole swabbing on the first few stands using a pump stroke counter?

3. Is the crew instructed not to "cheat" on hole filling to be sure pipe pulls are dry?

H_2S CHECKLIST FOR APD OR PLAN OF OPERATIONS

Items 1 - 4 to be shown on site layout diagram (part 9 of NTL-6 13-point checklist).

1. Two safety briefing areas at least 200' from wellhead and arranged so that at least one area will always be upwind of the well at all times.

2. Direction of prevailing winds.

3. Wind sock locations.

4. A second emergency escape route from the location opposite from direction of prevailing wind.

5. Number, types and storage locations of H_2S respirators for all personnel. Maximum number of personnel to be expected at any one time.

6. H_2S detector locations (should at least include cellar and mud tanks at shale shakes). Type and location of audible, visual alarm to be used.

7. H_2S evacuation and emergency training procedures and frequency.

8. Area residents within a two-mile radius, and agencies, to be notified in an amergency.

9. Types and quantities of mud additives and scavengers to be available at location for H_2S operations.

10. Design features and operational procedures to be used to protect the drill string, casing, wellhead, BOP's, choke lines and manifold and other well-killing equipment in H_2S environments.

U.S.G.S. INSPECTION RECORD

HYDROGEN SULFIDE OPERATIONS

1. Are number and locations of safe briefings adequate?
2. Are footpaths to briefing areas marked, lighted and unobstructed?
3. Are H_2S safety instructions and contingency plan posted?
4. Are "no smoking" rules enforced?
5. Is required personnel safety equipment available? (Protective breathing apparatus) (Resuscitator) (Portable H_2S detectors) (First-Aid Kit)
6. Have weekly H_2S drills been held and recorded on Drillers' log?
7. Is H_2S detection and monitoring equipment properly installed with sensing points at critical locations?
8. Is wind direction equipment installed?
9. Are danger signs and flags available?
10. Is kill line installed to safe area?
11. Is flare system installed and operable?
12. Is mud/gas separator installed and operable?
13. Are explosion-proof ventilation fans available for use?
14. Is pH of water base mud maintained at 10.0 or above?
15. Is mud system treated with H_2S neutralizing additive?

CHECKLIST FOR DRILLING OR WORKOVER IN H_2S ENVIRONMENT
(pending approval of proposed NTL-10)

Items 1 - 4 to be shown on site layout diagram (part 9 of NTL-6 13-point checklist).

1. Two safety briefing areas at least 200 feet from wellhead and arranged so that at least one area will always be upwind of the well at all times.

2. Direction of prevailing winds.

3. Wind sock locations. (Minimum of 2) (NTL-10, 11-A(4))

4. A second emergency escape route from the location. (Flagged trail minimum)

5. Number, types and storage locations of H_2S respirators for personnel and number of personnel to be expected at any one time.

6. H_2S detector locations (should at least include cellar or bell nipple and mud tanks at shale shaker). Type and location of audible, visual alarm to be used. (NTL-10, 11-A(3))

7. H_2S evacuation and emergency training procedures and frequency. (NTL-10, 11-A-(1)(b))

8. Area residents within a two-mile radius, and agencies, to be notified in an emergency (contingency plan). (NTL-10, 1-D)

9. Types and quantities of mud additives and scavengers to be available at location for H_2S operations.

10. Design features and operational procedures to be used to protect the drill string, casing strings, wellhead, BOP's, choke lines and manifold and other well-killing equipment in H_2S environments. (A certification by the operator on the APD that all equipment meets standards for H_2S service is acceptable for compliance.

11. Appropriate warning signs and flags on all access roads to location. (NTL-10, 11(4))

12. Provision for blocking or monitoring access to location during critical operations.

13. Ventilation fan under rig floor.

14. In event of uncontrolled blowout, which local official has authority to ignite flow?

15. Swabbing or drillstem testing fluids containing H_2S should be through a separator to permit flaring of gas. Flare should have continuous pilot light to insure ignition of all such gas.

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API
RECOMMENDED PRACTICES
FOR

SAFE DRILLING OF WELLS CONTAINING HYDROGEN SULFIDE

OFFICIAL PUBLICATION

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Users of this publication should become completely familiar with its scope and content. This document is intended to supplement rather than replace individual engineering judgment.

API RECOMMENDED PRACTICES FOR SAFE DRILLING OF WELLS CONTAINING HYDROGEN SULFIDE

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API RECOMMENDED PRACTICES FOR SAFE DRILLING OF WELLS CONTAINING HYDROGEN SULFIDE

FOREWORD

a. Initial efforts to develop a publication related to this overall subject were begun and advanced by a work group of the Production Safety Committee under API's Committee on Safety and Fire Protection. Because of the "non-divisional status" of the Committee on Safety and Fire Protection, a decision was reached to refer their draft material to the Production Department for further work and final approval as an official API publication.

b. This recommended practice was finalized by the Subcommittee on Blowout Prevention Equipment Systems, the membership of which is listed on the preceding page. It is published under the sponsorship of the Executive Committee on Drilling and Production Practice of the American Petroleum Institute's Production Department.

c. This recommended practice prescribes safety recommendations and outlines safety guidelines and procedures developed within the petroleum industry for conducting inland or offshore drilling operations where hydrogen sulfide gas may be encountered.

SECTION 1

SCOPE

1.1 Drilling operations where hydrogen sulfide may be encountered should include provisions to use the safety guidelines outlined in this publication. These guidelines should be administered where there is a reasonable expectation that hydrogen sulfide gas bearing zones will be encountered that could potentially result in atmospheric concentration of 20 ppm or more of hydrogen sulfide. These are requirements for deep, high pressure wells located in or near a populated area.

1.2 Several factors, including but not limited to hydrogen sulfide content, potential surface pressure, potential flow characteristics, and geographical location, may dictate modifications or exceptions to the recommendations set forth herein. These safety recommendations have been developed, considering land locations with unconfined areal boundaries, to safeguard personnel at the rig site and surrounding area and to minimize risk exposure to rig equipment. Recognizing that there are many locations with confined boundaries (such as locations found in marsh, marine, urban, and mountainous areas), attention should be given to safety recommendations resulting from these geographical limitations. Additional safety guidelines for these confined locations are set forth under Section 4, "Location".

1.3 Recommended safety procedures on rank wildcat drilling operations should be initiated immediately after setting of the intermediate casing string. On development wells or wells where knowledge of formation type allows good correlation, recommended safety procedures should begin well in advance of reaching a depth where hydrogen sulfide may be encountered.

SECTION 2

INTRODUCTION

2.1 The demand for hydrocarbons necessitates the drilling of deep, high pressure wells which may contain hydrogen sulfide. If hydrogen sulfide is encountered, the concentration of hydrogen sulfide involved may present hazards abnormal to routine drilling activities. Drilling operations involving high hydrogen sulfide concentrations present problems involving personnel and equipment which require special precautions by the petroleum industry due to the extremely acidic and toxic nature of hydrogen sulfide. Design of drilling equipment must include consideration of its possible exposure to hydrogen sulfide.

2.2 The petroleum industry, through experience and effort, has developed guidelines for safe drilling operations under conditions involving hydrogen sulfide. However, continuous industry effort including meticulous planning, careful equipment selection and layout, development of detailed operating procedures and emergency procedures, provision of appropriate safety equipment, and intensive personnel training are necessary to ensure successful and safe operations. All effective countermeasures to emergencies imply some degree of prior planning. The effectiveness of emergency countermeasures is usually proportionate to the thoroughness and soundness of the planning effort.

SECTION 3

HYDROGEN SULFIDE PHYSICAL PROPERTIES AND TOXICITY

3.1 *Hydrogen sulfide is extremely toxic.* The acceptable ceiling concentration for eight-hour exposure is 20 ppm, which is .002% by volume. Hydrogen sulfide is heavier than air (specific gravity = 1.176) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen sulfide is almost as toxic as hydrogen cyanide and is between five and six times more toxic than carbon monoxide. Toxicity data for hydrogen sulfide and various other gases are compared in Table I. Physical effects at various hydrogen sulfide exposure levels are presented in Table II.

TABLE I
TOXICITY OF VARIOUS GASES

Common Name	Chemical Formula	Specific Gravity (SG) SG Air = 1	Threshold[1] Limit	Hazardous[2] Limit	Lethal[3] Concentration
Hydrogen Cyanide	HCN	0.940	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H_2S	1.176	10 ppm[4] 20 ppm[5]	250 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.210	5 ppm	—	1000 ppm
Chlorine	Cl_2	2.450	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.970	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO_2	1.520	5000 ppm	5%	10%
Methane	CH_4	0.550	90,000 ppm (9%)	Combustible above 5% in Air	—

[1]Threshold Limit—concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.
[2]Hazardous Limit—concentration that may cause death.
[3]Lethal Concentration—concentration that will cause death with short-term exposure.
[4]Threshold Limit = 10 PPM—1972 ACGIH (American Conference of Governmental Industrial Hygienists).
[5]Threshold Limit = 20 PPM—1966 ANSI acceptable ceiling concentration for eight-hour exposure (based on 40-hour week) is 20 PPM. OSHA Rules and Regulations (Federal Register, Volume 37, No. 202, Part II, dated October 18, 1972).

TABLE II
PHYSICAL EFFECTS OF HYDROGEN SULFIDE*

Concentration			Physical Effects
percent (%)	ppm	grains/100 std. ft.^{3}**	
0.001	10	.65	Obvious and unpleasant odor.
0.002	20	1.26	Safe for 8 hours exposure.
0.01	100	6.30	Kills smell in 3 to 15 minutes; may sting eyes and throat.
0.02	200	12.59	Kills smell shortly; stings eyes and throat.
0.05	500	31.49	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration.
0.07	700	44.08	Unconscious quickly; death will result if not rescued promptly.
0.10	1000	62.98	Unconscious at once; followed by death within minutes.

*Caution: Hydrogen sulfide is a colorless and transparent gas and is flammable. It is heavier than air and may accumulate in low places.
**Based on 1% hydrogen sulfide = 629.77 grains/100 std. ft.^{3} at 14.696 psia and 59F, or 101.325 kPa and 15C.

SECTION 4
LOCATIONS

LOCATIONS WITH UNCONFINED BOUNDARIES

4.1 Drilling locations with unconfined boundaries are usually found on land where a typical rig layout can be planned as shown in Fig. 1. Such locations should be planned to obtain maximum safety benefits consistent with rig configurations, terrain, and prevailing winds. Rig components should be arranged on the location so the prevailing wind will blow across the rig toward the reserve pit(s).

4.2 The entrance to the location should be designed so that it can be barricaded if hydrogen sulfide emergency conditions arise. An auxiliary exit (or entrance) should be available so that in case of a catastrophe a shift in wind direction would not preclude escape from the location. Appropriate warning signs and flags should be placed at all location entrances.

4.3 Prevailing wind data should be considered in locating protection centers and briefing areas (sheds or trailers) on either side of the location 200 feet or more from the wellbore so they offset prevailing winds perpendicularly, or at a 45-degree angle if wind direction tends to shift in the area. Personnel protective equipment should be stored in both protection centers or if a movable trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both protection centers should be accessible. If the wind is quartering, one center should always be accessible. If needed in a crisis, materials and protective equipment located in a downwind protection center may be moved up-

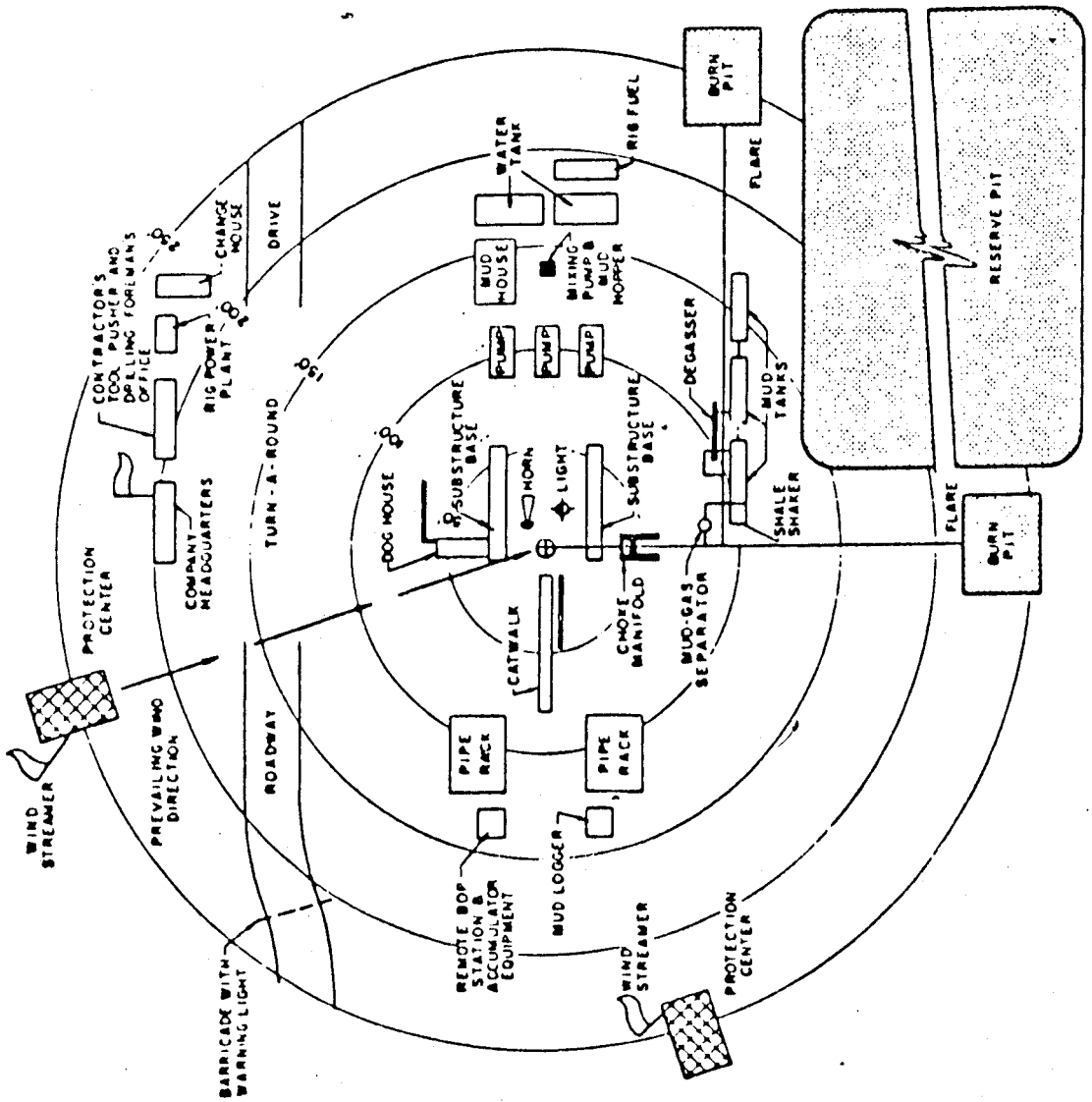

FIG. 1
TYPICAL DRILLING EQUIPMENT
LAYOUT—UNCONFINED LOCATION

wind after donning adequate protective equipment. An equipment trailer or other similar structure can be utilized as a third protection center under such emergency conditions. Upon recognition of an emergency situation, all personnel should assemble at the designated protection center for instructions.

4.4 All equipment should be located and spaced to take advantage of prevailing winds and to provide for good air movement (see Fig. 1). Eliminate as many sources of potential gas accumulation as possible in this manner.

4.5 A windsock should be installed on top of the derrick and at least three sets of wind streamers on streamer poles should be displayed, one set at the location entrance and one set at each of the location protection centers. Personnel should develop wind direction consciousness. Personnel should cultivate the habit of quickly moving upwind in the event of any emergency involving release of gas.

4.6 Large blowers or fans (bug blowers) should be used to direct vapors in the desired direction as protection against calm or extremely light winds. Use of such blower ventilation equipment should be considered on the rig floor, around the derrick substructure, at the shale shaker, and at any other points where hydrogen sulfide might accumulate and need to be dispersed.

4.7 The mud logging trailer should be located away from the shale shaker mud tank and a minimum of 125 feet from the wellbore.

4.8 Shale shaker mud tanks should be located so as to minimize the danger from any gas that breaks out of the drilling fluid.

4.9 Electric power plant(s) should be located as far from the wellbore as practical so that it may be used under conditions where it otherwise would have to be shut down. All electric wiring, devices, and lights should conform to the National Electrical Code according to the classified area surrounding drilling rigs as set out in *API RP 500B**. The drilling location should be adequately lighted at night. Consideration should be given to having available an emergency lighting system such as a battery pack floodlight.

4.10 Burn pits should be located at 90 degrees to each other to allow reduction of inherent hazards by changing from one pit to the other if the wind direction changes. Adequate space should be cleared of brush and grass around flares and burn pits to prevent fires.

4.11 Appropriate "No Smoking" signs should be exhibited at strategic points around the rig site. Smoking should not be permitted in specific areas adjacent to the wellbore, rig floor, and mud pits.

4.12 If the drilling location is fairly remote and several hours from available help and additional safety equipment or supplies, planning considerations should be given to additional contingency items such as extra bottled breathing air or a high pressure compressor for recharging breathing air bottles, a 24-hour communication center, and additional first-aid supplies.

LOCATIONS WITH CONFINED BOUNDARIES

4.13 Drilling locations with confined boundaries are usually found in marsh, marine, urban, or mountainous areas. A typical rig layout for such confined drilling locations is illustrated in Fig. 2. A number of special considerations should be given these type locations due to their geographical limitations.

4.14 The location entrance should be designed so that it can be barricaded if hydrogen sulfide emergency conditions arise. An auxiliary exit (or entrance) should be available so that in case of a catastrophe, a shift in wind direction would not preclude escape from the location.

4.15 Protection centers and briefing areas for confined locations should be located on each side of the location as far from the wellbore as is practical. When wind is from the prevailing direction, both protection centers should be accessible. On marine locations, the heliport deck and the bow or stern of the drilling vessel should be considered for locating protection centers. Upon recognition of an emergency situation, all personnel should assemble at the designated protection center for instruction.

4.16 Warning signs, warning flags (or balls), windsocks, and wind streamers should be displayed so as to be visible from as many points as practical on the ground, maindeck, rig floor, boats, or helicopters. Possible locations for these items are the derrick, hilltop, mast, heliport, and bow or stern of the drilling vessel.

4.17 In many instances, the location of the shale shaker, mud tanks, and mud logging trailer will be permanently fixed in close proximity to the wellbore. Adequate hazard warning signs should be posted in these areas and alternate personnel escape routes should be planned in the location layout. Additional mechanical blowers (fans) placed in these locations can help to reduce the risk exposure.

4.18 Flare lines should be as long as possible, commensurate with the location geographical limitations. One flare line should be installed perpendicular to the prevailing wind direction and another flare line should be installed parallel to the prevailing wind direction, if practical. An exception to this might be on a "ship-shape" floating drilling vessel where flare lines installed to the bow and stern of the ship would be the best arrangement. Flare lines should be secured with chains and boomers or other suitable means if ground staking is not possible.

4.19 If the drilling location is fairly remote and several hours from available help and additional safety equipment or supplies, planning considerations should be given to additional contingency items such as extra bottled breathing air or a high pressure compressor for recharging breathing air bottles, a 24-hour communication center, and additional first-aid supplies.

*API RP 500B, *API Recommended Practice for Classification of Areas for Electrical Installations at Drilling Rigs and Production Facilities on Land and on Marine Fixed and Mobile Platforms*, Second Edition, July 1973, is available from API Production Department, 211 North Ervay, Suite 1700, Dallas TX 75201.

SECTION 5

RIG EQUIPMENT

DRILL PIPE

5.1 Steel drill pipe for use in a hydrogen sulfide environment should be constructed of material having a yield strength of 95,000 psi or less, because of the potential material embrittlement problems. Drill stem joints near the top of the drill string are nor-

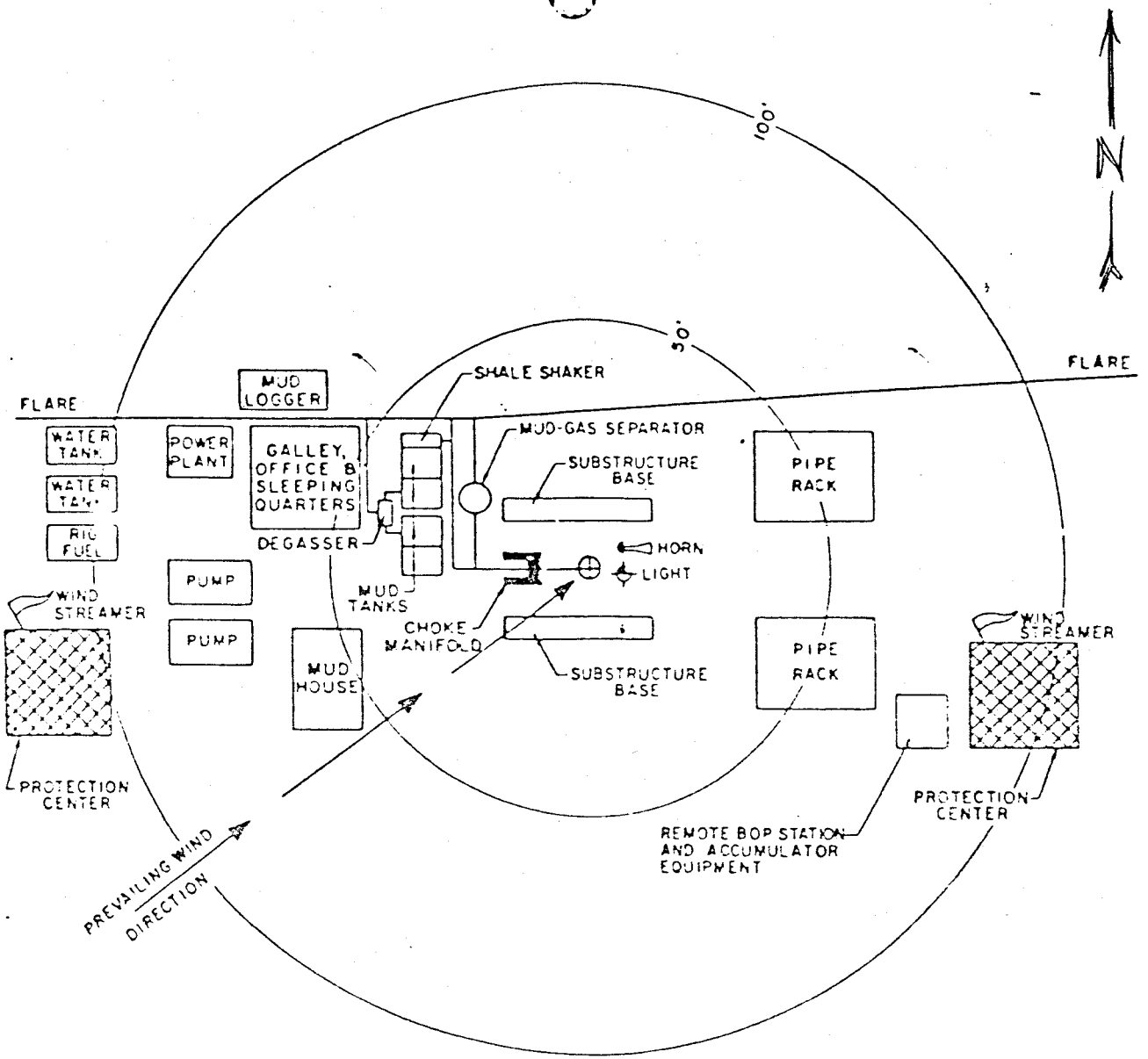

FIG. 1
TYPICAL DRILLING EQUIPMENT
LAYOUT—CONFINED LOCATION

mally under the highest stress levels during drilling operations and do not have the protection of elevated downhole temperatures. These factors should be considered in the overall selection and design of the drill string to be used in a hydrogen sulfide environment. Drill collars normally operate at an elevated downhole temperature. Due to the elevated temperature and with all other factors being equal, drill collars are not as susceptible to embrittlement if exposed to a hydrogen sulfide environment.

BLOWOUT PREVENTION EQUIPMENT

5.2 Blowout preventers should meet or exceed the recommendations for hydrogen sulfide service as set forth in the latest edition of *API RP 53**. Manufacturer certification of the blowout preventer equipment for hydrogen sulfide service is desirable. On extremely hazardous wells, a special auxiliary kill line 2" or more in diameter should be installed in the direction of the prevailing wind. This kill line should terminate at a suitable location to allow setting up pump trucks, mud tanks, and bulk barite tanks.

5.3 The closing unit should be located a safe distance from the wellbore and positioned for maximum utilization based on the prevailing wind direction. Auxiliary closing unit controls should be provided so they can be activated if the primary controls are not accessible. Auxiliary power source(s) for the closing unit pumps should be provided in case normal rig power and/or air are lost.

5.4 Refer to the latest edition of *API RP 53** for recommendations covering installation and use of the choke manifold, kill line, remote kill line, kelly cock, lower kelly valve, safety valves, and inside blowout preventer for hydrogen sulfide service.

API RP 53, Recommended Practices for Blowout Prevention Equipment Systems, First Edition, February 1976, is available from API Production Department, 211 North Ervay, Suite 1700, Dallas TX 75201.

SECTION 6
SPECIAL EQUIPMENT

FLARE LINES

6.1 A degasser should be installed for separating gas from the drilling fluid between the first and second mud tanks. Flare lines should be installed from the degasser, choke manifold, and mud/gas separator to the burn pits. Flare lines should be of such diameter to allow easy, nonrestricted flow of gas containing hydrogen sulfide. Flare lines should be as long as practical (150 ft. minimum) with one flare line installed parallel to and the other flare line installed perpendicular to the prevailing wind direction. These lines should be targeted with running tees and securely staked. Upon installation, flare lines should be tested with air, natural gas, or butane to assure proper operation.

BURN PIT AND FLARE IGNITION

6.2 A suitable method should be provided for igniting gas containing hydrogen sulfide at the burn pit or flare. This can be accomplished through use of either an automatic ignition system including a source of pilot gas or by installing the system in such a manner to allow gas ignition through use of flare guns, roman candles, etc. A combustible gas indicator should be provided for identifying the presence of combustible gas mixtures.

SECTION 7
HYDROGEN SULFIDE DETECTION

7.1 An automatic hydrogen sulfide monitor should be installed with a combination visual and audible alarm system located where it can be seen and/or heard throughout the drilling location. This system should have the capability of being activated from several points. Additional hydrogen sulfide monitors may be desirable.

7.2 The automatic hydrogen sulfide monitor should have a probe at the shale shaker and a probe should be positioned on the bell nipple. The automatic monitor should be set to trigger the drilling location visual/audible alarms when the hydrogen sulfide concentration in the atmosphere reaches 20 ppm.

7.3 In addition to the automatic hydrogen sulfide detection equipment, several hand-operated, bellows-type hydrogen sulfide detectors should be available with a supply of detector tubes.

7.4 A sulfur dioxide detector should be available for checking the sulfur dioxide level in the flare area when gas containing hydrogen sulfide is being burned.

SECTION 8
BREATHING EQUIPMENT

8.1 Masks which are designed to merely neutralize toxic gas do not provide the necessary protection and *should never be used in drilling operations when a hydrogen sulfide environment may be encountered.*

8.2 Self-contained breathing equipment is recommended for use in drilling operations involving a hydrogen sulfide environment. Two basic types of self-contained breathing apparatus are available and widely used in industry drilling operations.

a. Pressure-demand, fresh-air breathing equipment provides protection in any atmospheric concentration of hydrogen sulfide. This equipment has an alarm that signals when the breathing air supply is getting low, and can be serviced with a reserve air bottle.
b. Chemical units are available which convert exhaled breath into oxygen. These units are relatively light and can be used with a minimum of restriction to the wearer. An alarm system is incorporated which signals when the chemical supply is getting low, and replaceable chemical canisters are available for servicing the units.

8.3 Combination pressure-demand, air-line breathing equipment, with auxiliary self-contained air supply for emergency egress, is acceptable for use in drilling operations involving a hydrogen sulfide environment.

8.4 Masks should be stored in the location protection centers (sheds or trailers) and in other storage facilities located strategically around the operation, so that no person in normal work routine is more than "one breath away" from a mask. Appropriate racks should be available in the protection centers or other storage facilities for hanging masks. Every person working in the area (including geologist, mud engineer, service personnel, etc.) should be required to wear air breathing equipment during critical or emergency periods.

8.5 During well killing or other rig operation(s) requiring certain personnel to remain in a toxic environment, a back-up air manifold pressure-demand, fresh-air breathing system may be employed with connection points at the necessary locations.

8.6 Resuscitators with spare oxygen bottle should be provided at each location center or trailer.

SECTION 9

PLANS

9.1 All zones known to contain or suspected of containing hydrogen sulfide should be noted on the well prognosis and/or work plan.

9.2 Hydrogen sulfide is highly corrosive to steel; and, at high stress levels extreme metal embrittlement may occur in a very short time. All tubular goods, wellhead equipment, and other drilling related equipment which may be exposed to a hydrogen sulfide environment during the course of operations should be selected considering metallurgical properties which will reduce the chance of failure from hydrogen sulfide embrittlement.

9.3 To minimize intrusion of hydrogen sulfide bearing gas into the wellbore, drilling fluid density (weight) should be controlled at a level to prevent gas intrusion so that the only hydrogen sulfide entering the borehole will be from the drilled cuttings. *Caution:* Excessive drilling fluid density can result in loss of circulation.

9.4 Well planning should include consideration of use of a hydrogen sulfide scavenger in the drilling fluid system to reduce the reaction of the hydrogen sulfide on the drill string, pump fluid ends, chokes, and piping. Scavengers also reduce the amount of hydrogen sulfide reaching the surface. Hydrogen sulfide scavengers may be added as required to maintain a concentration in the drilling fluid sufficient to react with all hydrogen sulfide entering the drilling fluid.

9.5 The pH of the drilling fluid should be maintained above 9.5 at all times. In some cases, this may require a pH of approximately 11.5 to prevent a reduction in pH below 9.5 while round tripping the drill string.

9.6 Plans for drill stem testing operations should include consideration of the aforementioned points as well as information presented in *API RP 7G**, Section 8. Adherence to these considerations will severely limit conventional drill stem testing of deep, high pressure zones containing hydrogen sulfide.

9.7 If the overall well prognosis and/or work plan will permit, use of an oil base drilling fluids system will reduce the risk of metal embrittlement during drilling operations.

CONTINGENCY

9.8 A listing of emergency telephone numbers and radio contact procedure instructions should be prepared and maintained, considering the need to contact all or any portion of the following:

a. ambulances,
b. hospitals,
c. doctors,
d. helicopter service,
e. veterinarians,
f. state highway patrol,
g. county (parish) sheriff,
h. city police (if near a city or town),
i. state civil defense agency,
j. state national guard,
k. state air and water conservation agency.

These telephone numbers and methods for proper contact and/or notification to obtain immediate help or assistance should be prominently displayed at strategic points on the drilling location. It may prove desirable to contact some of the aforementioned services or agencies and explain the detailed circumstances under which their assistance may be needed and why a quick response would be necessary. Trial runs by ambulance services and/or helicopter services may be desirable, with instructions requiring attendants to be familiar with proper first-aid treatment for personnel who have been exposed to hydrogen sulfide.

9.9 A clear plastic container with a listing of current emergency telephone numbers and a map of the local area with all residential areas clearly marked should be located at both drilling location headquarters (operating company and drilling contractor) and in each location protection center or trailer.

9.10 Detailed operating conditions should be defined and posted for all personnel. Emergency procedures and duties should be clearly defined, including responsibilities of all applicable supervisory personnel.

9.11 Detailed step-by-step remedial procedures should be developed and posted to cover two emergency occasions:

a. when a well control problem occurs while making a trip.
b. when a well control problem occurs while drilling.

9.12 Established practices for installation of, testing, and maintaining blowout preventers should be followed. Regular scheduled and unscheduled drilling crew well control drills should be held.

9.13 If gas cutting of drilling fluid is encountered, blowout preventers should be closed while maintaining drilling fluid circulation through the choke lines to the mud-gas separator. The mud-gas separator should be connected into the flare line system. Normally, after circulating for a few hours the gas will decrease so the blowout preventers can be opened and normal drilling operations resumed without use of the choke system. The degasser should be used until the drilling fluid is free of entrained gas.

9.14 Personnel should put on applicable protective equipment when the hydrogen sulfide concentration in the atmosphere reaches or exceeds 20 ppm. After circulating out all gas cut returns, the shale shaker area should be periodically checked with gen

*API RP 7G, *API Recommended Practice for Drill Stem Design and Operating Limits* is available from API Production Department, 211 North Ervay, Suite 1700, Dallas TX 75201.

sulfide detection equipment until the concentration of hydrogen sulfide in the atmosphere drops below 20 ppm. Breathing equipment may then be removed until the hydrogen sulfide concentration again rises to the 20 ppm concentration level.

9.15 Nonessential personnel should be prohibited from remaining in or entering contaminated areas where the hydrogen sulfide concentration in the atmosphere exceeds 20 ppm. Exposure to hydrogen sulfide contamination should be reduced by shutting down air conditioning, heating, or ventilation systems which service enclosures for personnel.

9.16 "Gas discipline" rules should be adhered to. When the "masks on" requirement exists, *there are no exceptions.*

9.17 When coming out of the hole with a core barrel under suspected hydrogen sulfide conditions, the drilling crew should wear protective equipment while pulling the last twenty stands or at any time hydrogen sulfide reaches the surface. "Masks on" should be continued while opening the core barrel and examining the core.

9.18 Ignition of the well should be a last resort when human life and property are endangered and there is no hope of controlling the well blowout. If the well is ignited, the *burning hydrogen sulfide will produce sulfur dioxide which is also highly toxic.*

9.19 For functional and sanitary reasons, masks should be washed and sterilized in accordance with manufacturers' recommendations.

9.20 One wind velocity and wind direction weather station should be installed.

9.21 Approved wall type first aid kits with standard contents fill should be provided at each of the protection centers or trailers with a spare fill. Kit contents should be periodically inventoried and missing items replaced.

9.22 A minimum of five 30-pound dry chemical fire extinguishers should be strategically located around the drilling location.

9.23 Two rolls (500-foot total length) of 400-pound test, soft, fire-resistant rope should be provided for use as safety lines.

9.24 A rigid, body-fitting type litter should be provided in a location readily accessible to the work area.

9.25 A slide or other means for quick and safe escape of rig personnel from the rig floor to the ground or surface of the water should be provided.

SECTION 10

EVACUATION

10.1 The area within a two-mile radius of the well location should be checked out using a contour map. Due to high pressure dispersion, except on a dead calm day with a tremendous release of heavily concentrated vapors, the probability of lethal concentration of hydrogen sulfide beyond a one-mile radius is unlikely. Prevailing wind direction should be noted on the contour map. A thorough physical reconnaissance of the area should be made and the map noted to show the locations of houses, schools, barns, pens, roads, animals, and anything else that might cause people to be present who might need to be warned and/or evacuated in a crisis situation.

10.2 All houses shown on the contour map should be assigned a number and a listing compiled of the names of all residents of each house. An emergency reference record should be prepared containing the name(s) of persons residing in the area, telephone number contacts, and the map house number in which they reside. The possibility of alerting in advance all persons within the danger zone should be considered prior to entering the potential hydrogen sulfide bearing zone.

10.3 The contour map should be constructed to show one-half mile radius, one-mile radius, and two-mile radius from the drilling well location. A transparent sheet of plastic can be used to make an overlay showing wind direction and a 45-degree fallout zone that can be rotated on the map to fit existing wind direction. In an emergency, this procedure can be used to select the high priority areas and individuals to be warned and/or evacuated and to organize the warning and evacuation programs.

SECTION 11

TRAINING

11.1 Every person who will be at the location in any capacity should be familiar with requirements of the emergency procedures and should participate in the training program. This includes operating company personnel, rig personnel, and service company personnel. Personnel training should start in regular safety meetings as soon as possible after the drilling routine is established and should be appropriately intensified as the operation progresses.

11.2 Minimum personnel training should provide coverage of the following points or programs:

a. Detailed explanation of the seriousness of encountering hydrogen sulfide in drilling operations.

b. Explanation of rig layout details, prevailing winds, importance of adequate ventilation, use of mechanical blowers (fans), utilization of windsock and wind streamers, personnel movement in an upwind direction, and evacuation routes.

c. Personnel drills with breathing equipment. These drills should be initiated by actuating the hydrogen sulfide alarm. All personnel should proceed to the designated briefing area in accordance with the emergency procedures, don breathing equipment, and await instructions. They should then perform a short period of rig work routine in the breathing equipment.

d. Use, care, and servicing of:

1) Protective breathing equipment (self-contained breathing apparatus, emergency escape air bottles, hose line, etc.). Respirators should be stored in a convenient, clean, and sanitary location and a record kept of inspection dates and findings on all breathing equipment maintained for emergency

use. Respirators not routinely used but that are kept ready for emergency use should be inspected after each use or at least once a month, whichever comes sooner, to assure they are in satisfactory working condition.

2) Portable hydrogen sulfide detection instruments.
3) Sulfur dioxide detection instrument(s).
4) Combustible gas indicator.
5) Resuscitation equipment.
6) Portable fire extinguishers.
7) Emergency-alarm system.

e. Mouth-to-mouth resuscitation and the following first aid procedure points should a person be overcome by hydrogen sulfide:

1) Wear breathing equipment if rescuing a person in an area suspected to be contaminated by hydrogen sulfide.
2) Person(s) overcome by hydrogen sulfide should be immediately moved to a spot where uncontaminated air is available. If the person is not breathing, mouth-to-mouth resuscitation should be administered as soon as possible.
3) At the first opportunity, replace mouth-to-mouth resuscitation efforts with the resuscitator equipment.
4) Continue to administer oxygen when the person begins breathing.
5) Treat patient for shock.
6) Contact ambulance and doctor.

f. Understanding that appropriate tests should be made before persons enter areas suspected of being contaminated by hydrogen sulfide. These tests should be made after personnel have donned self-contained breathing equipment.

g. Develop personnel practice of watching out for each other when emergency conditions exist. Where possible, work should be performed in pairs. When a hydrogen sulfide emergency exists, personnel should use the "buddy system" to prevent anyone from entering a contaminated area alone.

h. Explanation to personnel that they should never enter an enclosed place where hydrogen sulfide may have accumulated without wearing protective breathing equipment. If the worker is over an arm's length away, a life belt and life line should be secured to him and the other end held by a responsible person stationed in a clear area. After being in an enclosed area containing hydrogen sulfide, persons should not remove breathing equipment until tests indicate that the air is safe to breathe.

i. Explanation of the effects of hydrogen sulfide on metal. Hydrogen sulfide dissolves in water to form a weak acid that can cause some pitting, particularly in the presence of oxygen and/or carbon dioxide. However, the most significant action of hydrogen sulfide is its contribution to a form of hydrogen embrittlement known as sulfide stress cracking. Sulfide stress cracking is a result of metals being subjected to high stress levels in a corrosive environment where hydrogen sulfide is present. The metal will often fail catastrophically in a brittle manner. Sulfide stress cracking of steel is dependent upon and determined by:

1) Strength (hardness) of the steel—the higher the strength the greater the susceptibility to sulfide stress cracking. Steels having yield strengths up to 95,000 psi and hardnesses up to R_c 22 are generally resistant to sulfide stress cracking. These limitations can be extended slightly higher for properly quenched and tempered materials.
2) Total member stress (load)—the higher the stress level (load) the greater the susceptibility to sulfide stress cracking.
3) Corrosive environment—corrosive reactions, acids, bacterial action, thermal degradation, or low pH fluid environment.

j. In the event of sudden gas release with no advance warning, personnel should be instructed to take the following general actions:

1) Hold breath (do not breathe).
2) Put on protective breathing equipment.
3) Help any person(s) in distress.
4) Proceed to the designated briefing area and secure instructions from supervisor.
5) Do not panic.

SECTION 12
CONCLUSIONS

12.1 Information outlined in this recommended practice is for guidance toward a prudent, safe operation. The illustrations (Fig. 1 and Fig. 2) represent suggested equipment and typical layouts and are not intended to limit any operating company or drilling contractor to these particular installations.

12.2 To accomplish the intended purpose of this publication, information presented herein should be rigidly adhered to by all persons at the location.

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2M—Johnston—[illegible]/75
2M—Johnston—1/77
3M—Johnston—8/78
4M—Johnston—7/79
2M—Johnston—9/80

Bell SAFETY

APPENDIX I

Safety Equiptment

Safety trailer with eight 380 cu. ft. cylinder Cascade Air Supply System , 1500 ft. low pressure air line w/ quick connects

3 Low pressure manifolds
8 Workline units
7 Thirty-minute S. C. B. A.
@ Wind socks
1 First-aid kit
1 Oxygen resuscitator
1 Gas detector (pump style)
1 Four channel electronic H_2S monitor
2 Briefing Area sign
1 Thirty pound fire extinguisher
1 Eye wash station
1 Fire blanket
1 Stretcher
2 250 ft. lengths of rope w/ harnesses

Bell SAFETY

APPENDIX 2

LIST OF RESIDENCES WITHIN A TWO MILE RADIUS.

NONE

P. O. Box 234 • 303-675-5274 • Rangely, CO 81648

Bell SAFETY

APPENDIX # 3

Company & Contract Personnel

Holden Energy Corp.
Suite 600 Lincoln Center
Ardmore; Olkhoma 73401

office 405-226-3960

Company Man

MR. Ken Allen

office 801-722-5084
residence 801-722-9966
Mobile 646-4123

Drilling Company unkown

Safety Company
Bell Safety
MR. David Frederick

office 303-675-5274
residence 303-675-8606

Bell Answering Service 303-675-2622

A. PHYSICAL AND CHEMICAL PROPERTIES OF HYDROGEN SULFIDE H2S

1. Extremely toxic (almost as toxic as Hydrogen Cyanide and 5 to 6 times more toxic than Carbon Monoxide).
2. Colorless.
3. Offensive odor, often described as that of rotten eggs.
4. Heavier than air-specific gravity 1.189 (Air = 1.000 @ 60 F.). Vapors may travel considerable distance to a source of ignition and flash back.
5. Forms an explosive mixture with a concentration between 4.3 and 46 percent by volume with auto-ignition occurring at 500 F.
6. Burns with a blue flame and produces Sulfur Dioxide (SO2), which is less toxic than Hydrogen Sulfide but very irritating to eyes and lungs and causes serious injury.
7. Soluble in both water and liquid hydrocarbons.
8. Produces irritation to eyes, throat and respiratory system.
9. Threshold Limit Valve (TLV) - Maximum of eight hours exposure.
10. Corrosive to all electrochemical series metals.
11. Boiling Point (-79 F).
12. Melting Point (-177 F).

B. PHYSICAL EFFECTS OF HYDROGEN SULFIDE POISONING

THE PRINCIPAL HAZARD IS DEATH BY INHALATION. When the amount of gas absorbed into the blood stream exceeds that which is readily oxidized, systemic poisoning results, with a general action on the nervous system. Labored respiration occurs shortly, and respiratory paralysis may follow immediately at concentrations of 700 ppm and above. This condition may be reached almost without warning as the originally detected odor of Hydrogen Sulfide may have disappeared due to olfactory paralysis. Death then occurs from asphyxiation unless the exposed person is removed immediately to fresh air and breathing stimulated by artificial respiration. Other levels of exposure may cause the following symptoms individually or in combinations:

a. Headache
b. Dizziness
c. Excitement
d. Nausea or gastro-intestinal disturbances
e. Dryness and sensation of pain in nose, throat and chest
f. Coughing
g. Drowsiness

All personnel should be alerted to the fact that detection of Hydrogen Sulfide solely by smell is highly dangerous as the sense of smell is rapidly paralyzed by the gas.

C. TREATMENT FOR HYDROGEN SULFIDE POISONING

INHALATION

As Hydrogen Sulfide in the blood oxidizes rapidly, symptoms of acute poisoning pass off when inhalation of the gas ceases. It is important, therefore to get the victim of poisoning to fresh air as quickly as possible. He should be kept at rest and chilling should be prevented. If respiration is slow, labored, or impaired, artificial respiration may be necessary. Most persons overcome by Hydrogen Sulfide may be revived if artificial respiration is applied before the heart action ceases. Victims of poisoning should be under the care of a physician as soon as possible. Irritation due to sub-acute poisoning may lead to serious complications such as pneumonia. Under those conditions, treatment by the physician necessarily would be symptomatic. The patient should be kept in fresh air, and hygienic conditions should be watched carefully.

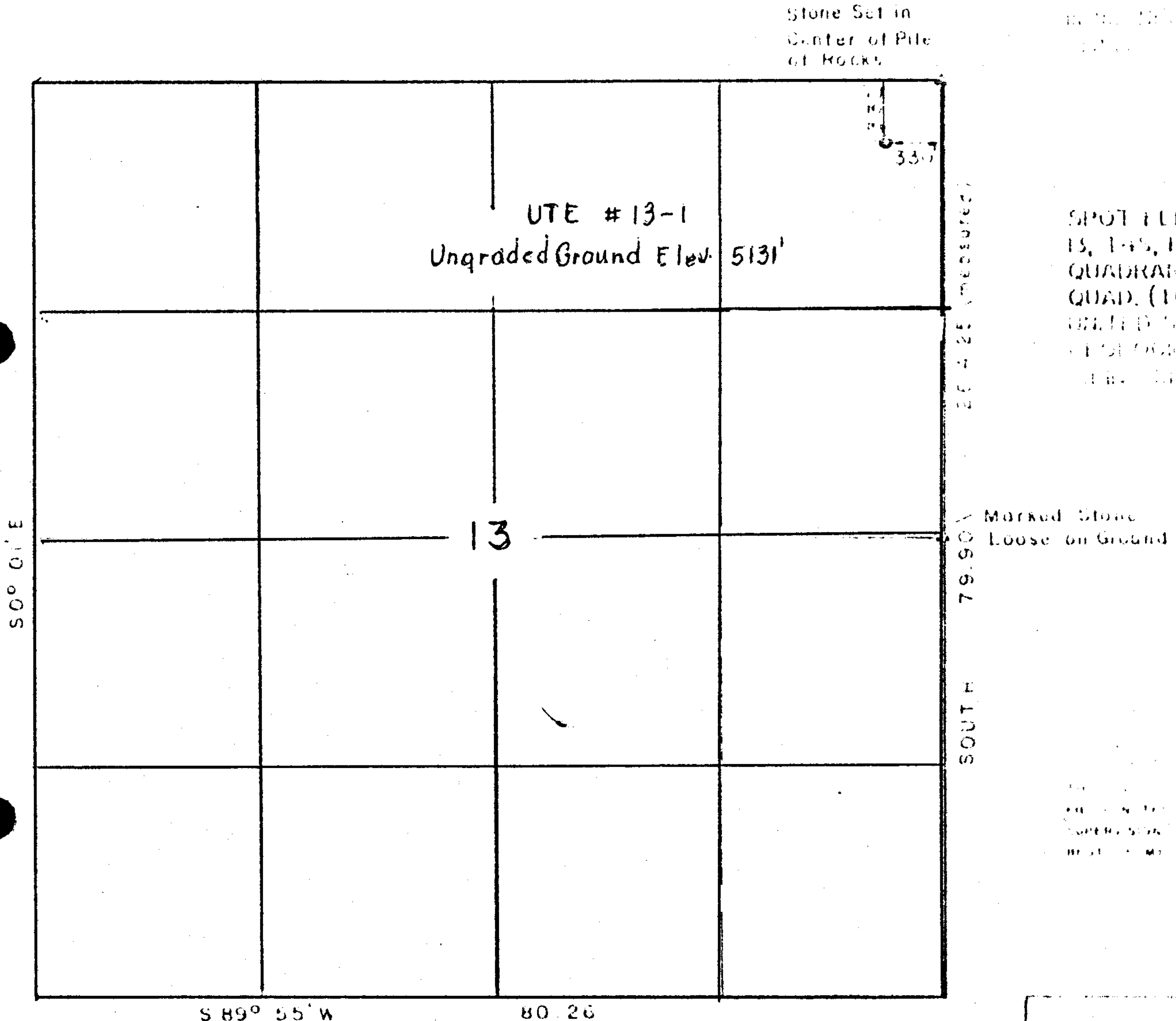
CONTACT WITH EYES

Eye contact with liquid and/or gas containing Hydrogen Sulfide will cause painful irritation (conjunctivitis). Keep patient in a darkened room apply ice compresses to eyes, put ice on forehead, and send for a physician. Eye irritation caused by exposure to Hydrogen Sulfide requires treatment by a physician, preferably an eye specialist. The progress to recovery in these cases is usually good.

CONTACT WITH SKIN

Skin absorption is very low. Skin discoloration is possible after contact with liquids containing Hydrogen Sulfide. If such skin contact is suspected, the area should be thoroughly washed.

T 4 S, R1E, U.S.B.&M.



▲ Located Section Corners

[illegible] 0, 13 - 1 [illegible]

BASIS OF [illegible] ATION

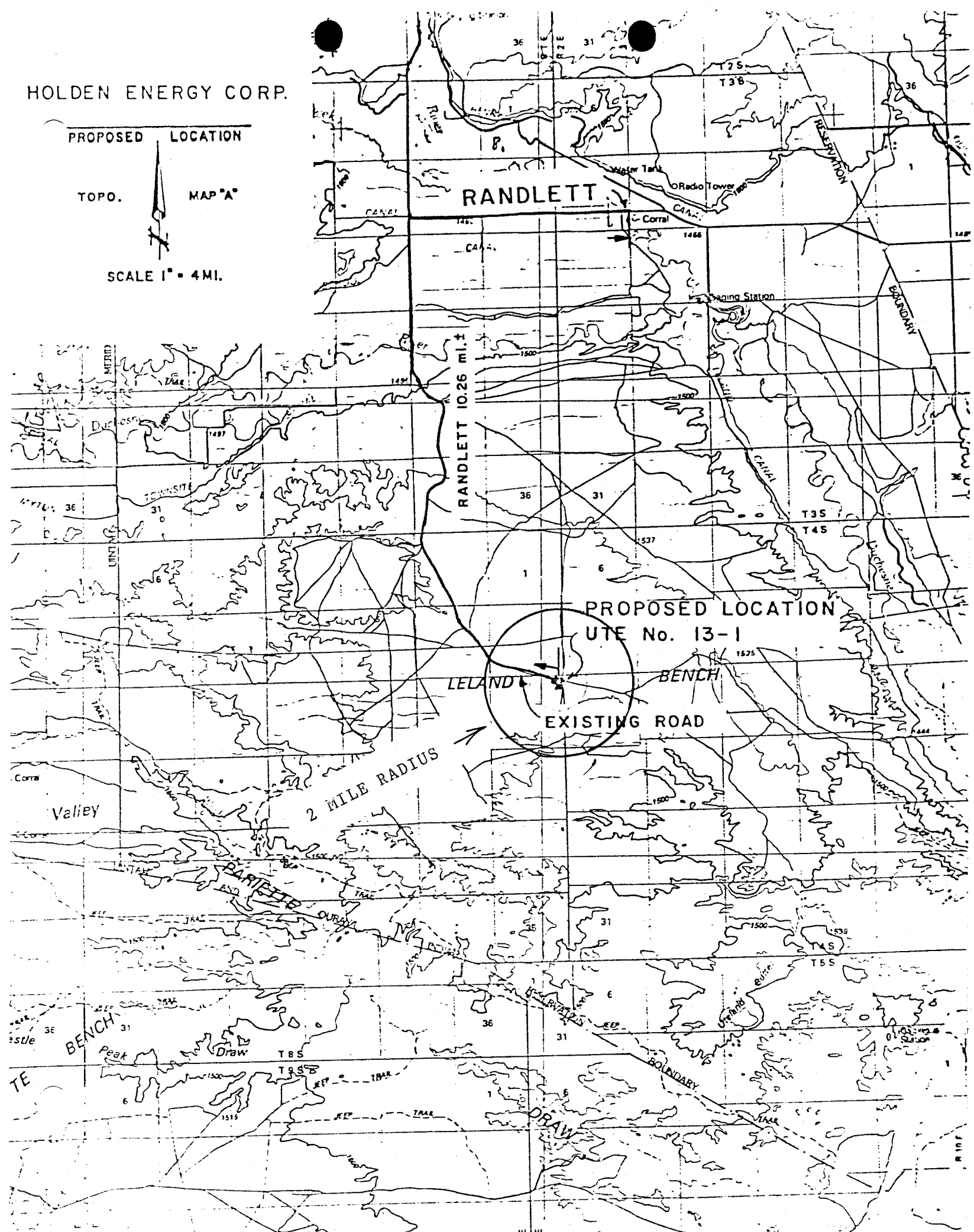
SPOT ELEVATION AT [illegible] CORNER OF SECTION 13, T4S, R1E, U.S.B.&M. [illegible] FROM THE [illegible] QUADRANGLE, UTAH, [illegible] COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC [illegible]) PUBLISHED BY THE UNITED STATES DEPA[illegible] OF INTERIOR, GEOLOGICAL SURVEY. [illegible] ELEVATION [illegible]

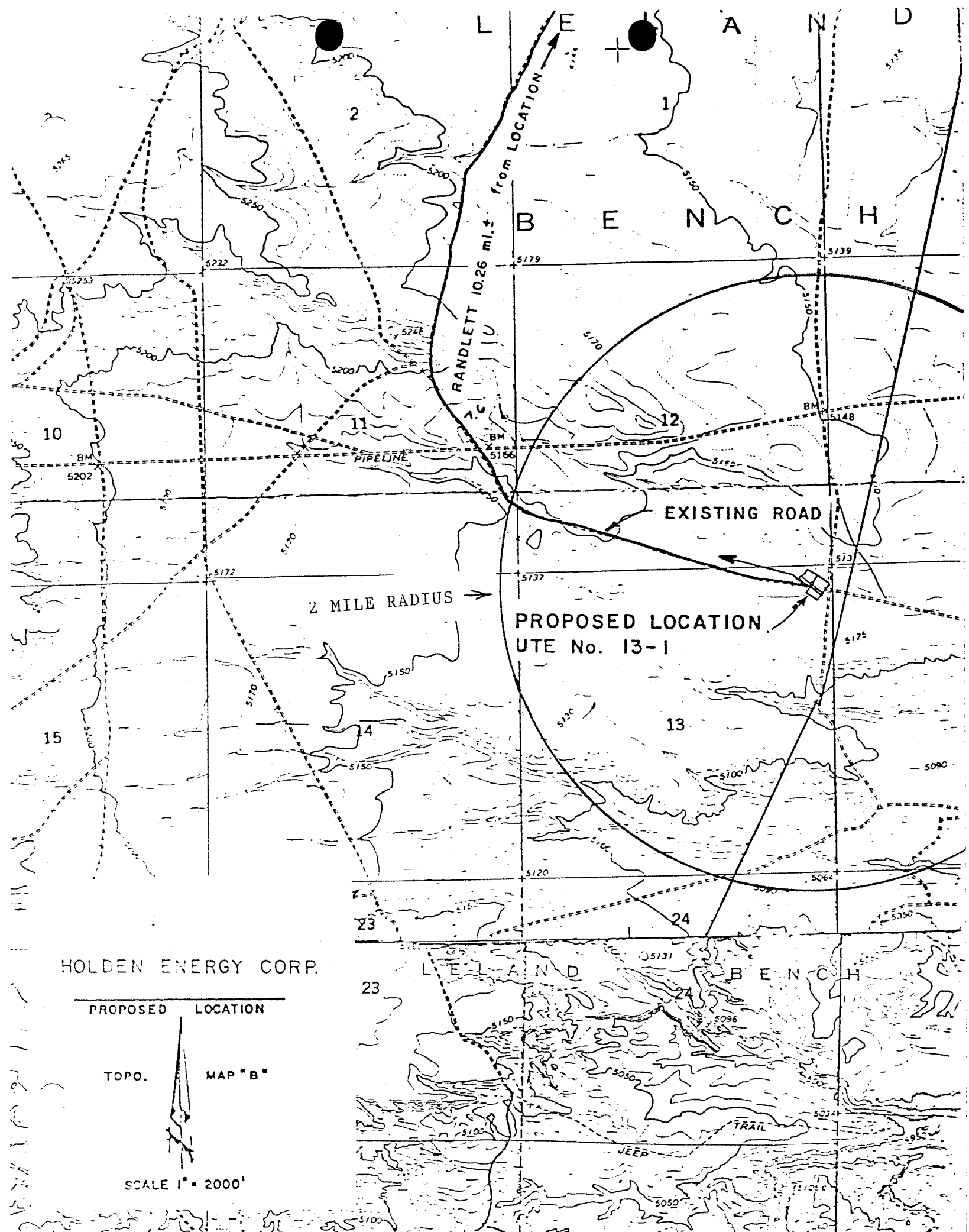
CE[illegible]

[illegible] REGISTERED LAND SURVEYOR [illegible] NO. 2454 [illegible] UTAH

UINTAH ENGINEERING & LAND SURVEYING
P.O. BOX [illegible] - 200 EAST
VERNAL, UTAH 84078

[illegible] 6/20/[illegible]


HOLDEN ENERGY CORP.
PROPOSED LOCATION
TOPO. MAP "A"
SCALE 1" = 4 MI.
RANDLETT
RANDLETT 10.26 mi.±
PROPOSED LOCATION
UTE No. 13-1
EXISTING ROAD
2 MILE RADIUS
LELAND BENCH
T 7 S
T 3 S
T 4 S
T 5 S
T 8 S
Water Tank
Radio Tower
Corral
Gaging Station
RESERVATION
BOUNDARY
CANAL
TOWNSITE
Valley
BENCH
Peak
Draw
DRAW


L E L A N D
B E N C H
RANDLETT 10.26 mi.± from LOCATION
EXISTING ROAD
2 MILE RADIUS
PROPOSED LOCATION
UTE No. 13-1
PIPELINE
TRAIL
JEEP
BM 5202
BM 5166
BM 5148
HOLDEN ENERGY CORP.
PROPOSED LOCATION
TOPO. MAP "B"
SCALE 1" = 2000'

UELS

Uintah Engineering & Land Surveying

85 SOUTH 200 EAST • P.O. BOX 1758
VERNAL, UTAH 84078

PHONE (801) 789-1017

NELSON J. MARSHALL
PHONE 789-0272
LAWRENCE C. KAY
PHONE 789-1125
ROBERT L. KAY
PHONE 789-0493
JOHN R. SLAUGH
PHONE 789-3292

July 19, 1988

Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attn: Lisha Romero

Re: Holden Energy Corporation Well Location: Ute No. 13-1 located in the NE 1/4 NE 1/4 Section 13, T4S, R1E, U.S.B.& M.

Dear Ms. Romero:

Mr. Rick Orr with Holden Energy Corporation has requested that I apply for an exception to the spacing rule on this well. The as staked well is 330 feet from the North line and 330 feet from the east line.

The reason for this request is that Holden Energy's geologist wanted the location to be kept as far north and east in Section 13 as possible.

Sincerely,

Lawrence C. Kay

Lawrence C. Kay
Holden Energy Representative

LCK/ch

cc: Holden Energy Corporation
File copy

Holden Energy controls a 460' radius around the well location as per Lawrence Kay (Consultant) 7-19-88. LCK

OPERATOR Holden Energy Corp. DATE 7-18-88

WELL NAME Ute 13-1

SEC NENE 13 T 4S R 1E COUNTY Uintah

43-047-31846
API NUMBER

Indian
TYPE OF LEASE

CHECK OFF:

- [x] PLAT
- [x] BOND
- [x] NEAREST WELL
- [x] LEASE
- [x] FIELD
- [x] POTASH OR OIL SHALE

PROCESSING COMMENTS:
No other well within 920'
Need water permit (ok)
Need exception location request (Received 7-20-88)
RDCC 7-18-88

CONFIDENTIAL PERIOD EXPIRED ON 9-15-90

APPROVAL LETTER:

SPACING: [ ] R615-2-3 _____ UNIT [ ] R615-3-2

[ ] _____ CAUSE NO. & DATE [x] R615-3-3

STIPULATIONS:

1- ~~Water permit~~ (A8908 / t88-43-8)

0218T

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

August 1, 1988

Holden Energy Corporation
Lincoln Center, Suite 600
Ardmore, Oklahoma 73401

Gentlemen:

Re: Ute 13-1 - NE NE Sec. 13, T. 4S, R. 1E - Uintah County, Utah
330' FNL, 330 FEL

Approval to drill the referenced well is hereby granted in accordance with Rule R615-3-3, Oil and Gas Conservation General Rules.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification within 24 hours after drilling operations commence.

2. Submittal of an Entity Action Form within five working days following spudding and whenever a change in operations or interests necessitates an entity status change.

3. Submittal of the Report of Water Encountered During Drilling, Form OGC-8-X.

4. Prompt notification if it is necessary to plug and abandon the well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or Jim Thompson, Lead Inspector, (Home) 298-9318.

5. Compliance with the requirements of Rule R615-3-22, Gas Flaring or Venting, Oil and Gas Conservation General Rules.

6. Prior to commencement of the proposed drilling operations, plans for facilities for disposal of sanitary wastes at the drill site shall be submitted to the local health department. These drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 538-6121.

7. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-047-31846.

Sincerely,

R.J. Firth
Associate Director, Oil & Gas

lr
Enclosures
cc: Branch of Fluid Minerals
D. R. Nielson
8159T

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

OH.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

RECEIVED
AUG 10 1988
DIVISION OF OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.
14-20-H62-4376

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Ute Indian Tribe

7. UNIT AGREEMENT NAME

1a. TYPE OF WORK
DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL
OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [ ] MULTIPLE ZONE [ ]

8. FARM OR LEASE NAME
Ute 13

2. NAME OF OPERATOR
Holden Energy Corporation

9. WELL NO.
1

3. ADDRESS OF OPERATOR
Lincoln Center, Suite 600, Ardmore, OK 73401

10. FIELD AND POOL, OR WILDCAT
Green River/Wildcat

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
330' FNL 330' FEL NE ¼ NE ¼
At proposed prod. zone
Same

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 13, T4S, R1E, USB&

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
Approximately 12.0 miles South of Fort Duchesne

12. COUNTY OR PARISH
Uintah

13. STATE
Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)

16. NO. OF ACRES IN LEASE
80

17. NO. OF ACRES ASSIGNED TO THIS WELL
80

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH
10,000'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
5131' GR., (Ungraded)

22. APPROX. DATE WORK WILL START*
7/15/88

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 ¼"	10 3/4"	40#/ft.	350'	150 sacks Class "H"
6 ¼"	4 1/2" liner	26#/ft.	7000'	360 sacks Class "H" +12% gel
	back to 6800'		1000'	

" 26# csg. down to 7000'
" 13.5# liner from 6800' - 10,000'

JUL 1988

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Uintah Engineering and Land Surveying for Holden Energy Corporation

SIGNED Laurence L. Kay TITLE Consultant DATE 7/8/88

(This space for Federal or State office use)

PERMIT NO. APPROVAL DATE

APPROVED BY [signature] TITLE ASSISTANT DISTRICT MANAGER MINERALS Acting DATE 8/4/88

CONDITIONS OF APPROVAL, IF ANY:

NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED TO OPERATOR'S COPY

*See Instructions On Reverse Side

Div OG+M

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
DRILLING AND WELL PLUGGING INSPECTION FORM

COMPANY: Holden Energy COMPANY MAN: Ken Allen

WELL NAME: Ute 13-1 API #: 43-047-31846

QTR/QTR: NENE SECTION: 13 TWP: 4 South RANGE: 1 East

CONTRACTOR: _____ PUSHER/DRLR: _____

INSPECTOR: Carol Kubly DATE: 3/30/89 OPERATIONS: POW

SPUD DATE: 8/10/88 TOTAL DEPTH: _____

DRILLING AND COMPLETIONS

N APD	Y WELL SIGN	N BOPE	Y RESERVE PIT
N FLARE PIT	N BURN PIT	N H2S	N BLOOIE LINE
N SANITATION	Y HOUSEKEEPING	N VENTED/FLARED	

PLUGGING AND ABANDONMENT PRODUCING FM(S): _____

PLUGS:	TYPE/SIZE	INTERVAL

PERFORATIONS: _____

CASING SIZE: _____ PULLED: YES / NO CUT AT: _____

PLUGS TESTED: _____ HOW: _____ WOC: _____

MARKER: SURFACE: _____ PLATE: _____

RECLAMATION:

CONTOURED: _____ RIPPED: _____ REHAB'D: _____

LEGEND: (Y)-YES (P)-PROBLEM (U)-UNKNOWN (BLANK)-NOT APPLICABLE

REMARKS: Location, well head, pump jack, propane tank, production battery, reser reserve pit. POW - reserve pit fenced on 4 sides, plastic lined and 1/3 full of drilling fluids. No well completion report has been received. I just stopped by to see what the status was. Contact Holden for WCR

COCHRANE RESOURCES, INC.

Engineering
Wellsite Supervision
Lease Operating

P.O. Box 1656
Roosevelt, Utah 84066
Phone (801) 722-5081

August 11, 1988

Bureau of Land Management
Vernal District Office
170 South 500 East
Vernal, Utah 84078

Re: Holden Energy Corporation
Ute Tribal 13-1
Sec 13, T4S, R1E
Lease # 14-20-H62-4376 43-047-31846

Dear Sir:

This Letter is to advise you that the subject well was spudded at 3:00 pm, August 10, 1988. A 13 3/8" hole was drilled to 369' and 369' of 10 3/4", 40.5 lb. casing was run. Casing was cemented to surface.

Yours truly,

Ken Allen
Agent for Holden Energy Corp.

Holden Energy Corporation

___Exploration___Production___Development___Acquisition___

SUITE 600
LINCOLN CENTER
ARDMORE, OKLAHOMA 73401

(405) 226-3960

Transmittal Form

To: State of Utah
Department of Natural Resources
Division of Oil, Cas & Mining
355 West North Temple
3 Triad Center, Ste. 350
Salt Lake City, Utah 84180-1203

Date: September 21, 1988

Well Name and Location:

Ute 13-1
Sec. 13-4S-1E
Uintah County, Utah

Transmitted herewith are the following:

Entity Action Form

Signed By: Jan Foothman

Please acknowledge receipt of this data by signing and returning the yellow copy of this transmittal form. Thank you.

Received By: Lisha C. Romero / DOGM **Date:** 9-26-88

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - DOGM FORM 6

RECEIVED
SEP 26 1988
DIVISION OF
OIL, GAS & MINING

OPERATOR Holden Energy Corporation
OPERATOR CODE N0825
ADDRESS Suite 600 Lincoln Center
Ardmore, OK 73401
PHONE NO. (405) 226-3960

CONFIDENTIAL

OPERATORS MUST COMPLETE FORM UPON SPUDDING NEW WELL OR WHEN CHANGE IN OPERATIONS OR INTERESTS NECESSITATES CHANGE IN EXISTING ENTITY NUMBER ASSIGNMENT.

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION QQ	SC	TP	RG	COUNTY	SPUD DATE	EFFECTIVE DATE
A	99999 n/a	10931 n/a	43-047-31846	Ute 13-1	NE	13	4S	1E	Uintah	8-10-88	n/a

COMMENTS: Indian-lease
Field-Wildcat
Not in a unit
Proposed Zone Wasatch
(only well in sec. 13, assign new entity 10931 on 9-26-88, jcr)

COMMENTS:

COMMENTS:

COMMENTS:

COMMENTS:

ACTION CODES:
A - ESTABLISH NEW ENTITY FOR NEW WELL (SINGLE WELL ONLY)
B - ADD NEW WELL TO EXISTING ENTITY (GROUP OR UNIT WELL)
C - RE-ASSIGN WELL FROM ONE EXISTING ENTITY TO ANOTHER EXISTING ENTITY
D - RE-ASSIGN WELL FROM ONE EXISTING ENTITY TO A NEW ENTITY
E - OTHER (EXPLAIN IN COMMENTS SECTION)

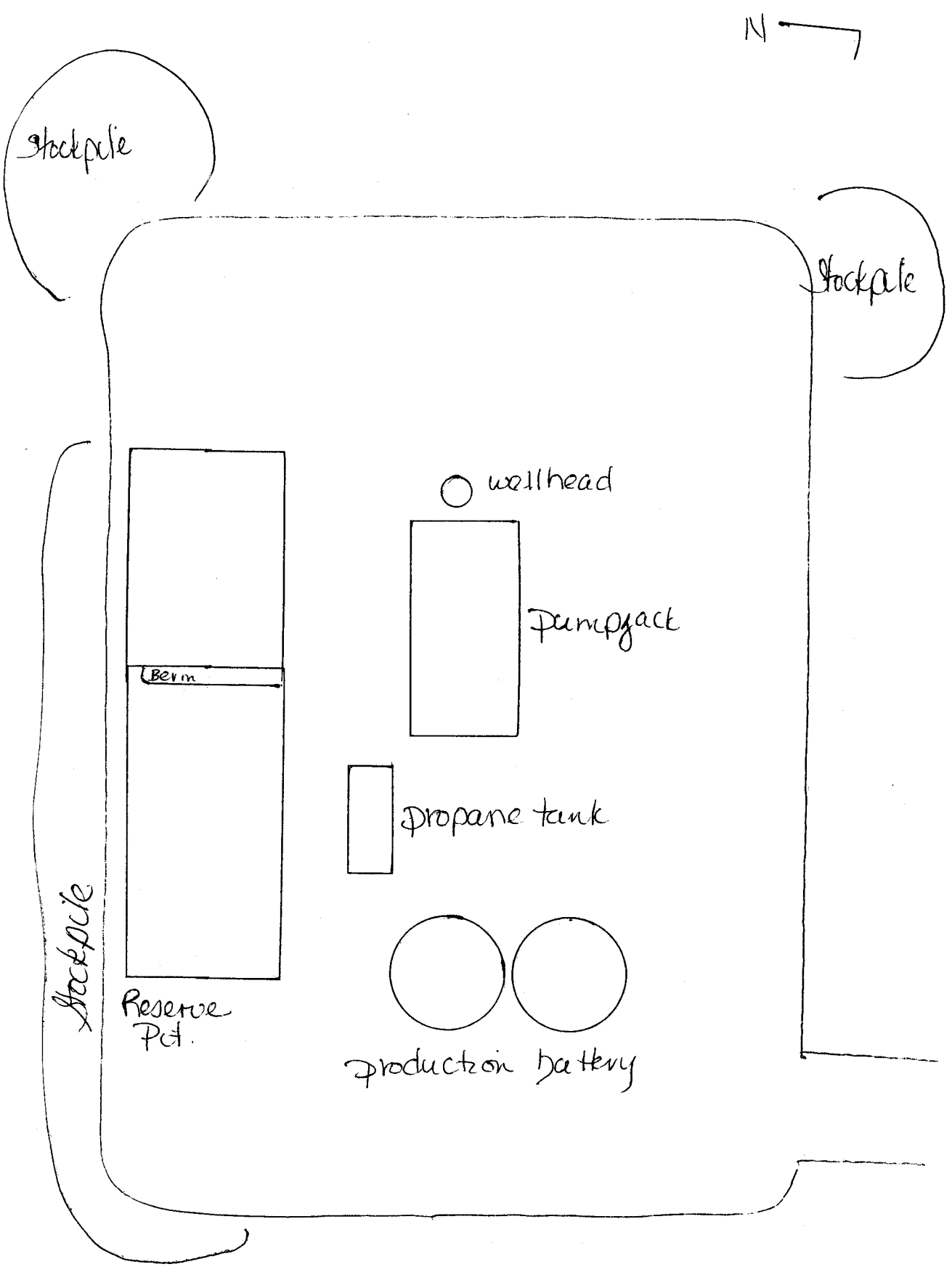
(SEE INSTRUCTIONS ON BACK OF FORM)

SIGNATURE

President
TITLE

9-30-88
DATE

Wechsal 13-1 Sec 13, T43S, R1E Kubly 3/30/89



Form OGC-3

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

56 64 01

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

2. NAME OF OPERATOR
Holden Energy Corporation

3. ADDRESS OF OPERATOR
Suite 600 Lincoln Center - Ardmore, OK 73401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface 330' FNL, 330' FEL (NE NE)
At top prod. interval reported below Same
At total depth Same

RECEIVED
APR 20 1989
DIVISION OF OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.
14-20-H62-4376

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Ute Indian Tribe

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Ute 13

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Green River/Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
Sec. 13-4S-1E

14. PERMIT NO.	12. COUNTY OR PARISH	13. STATE
43-047-31846 8-1-88	Uintah	Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
8-10-88	9-20-88	11-15-88	5131'	5132'

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
9628'	7380'	n/a	→	T.D.	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
Green River - 6330' to 7350'

25. WAS DIRECTIONAL SURVEY MADE
no

CONFIDENTIAL

26. TYPE ELECTRIC AND OTHER LOGS RUN
Dual Laterolog - Neutron Density BHS ACB

27. WAS WELL CORED
no

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
10 3/4	40.5	369	13 3/8	Circulated to surface	n/a
7	26	7430	8 3/4	7430 to 2080	n/a

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
n/a				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8	7,250	n/a

31. PERFORATION RECORD (Interval, size and number)
6348-58-½-9
7214-28-½-10
7510-18-½-11
7300-06-½-12
6682-90-½-6
6814-24-½-8

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6348 to 7306	336,000 KCL water & 670,000 Lbs 20/40 sand

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
11/15/88	Pumping - 1 3/4"	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
12/10/88	24	1		85	5	10	.06:1

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
n/a	10#		85	5	10	38

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
used for fuel

TEST WITNESSED BY
Ken Allen

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED [signature] TITLE President DATE 4-17-89

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: *"Sacks Cement"*: Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

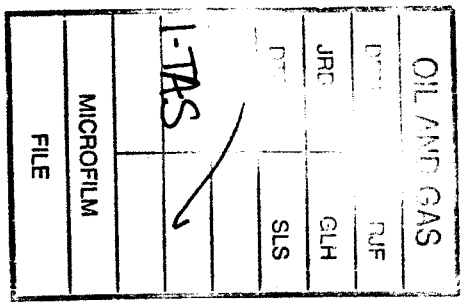
Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Green River	6330'	7350'	Shale & Sand (Some sand zones w/oil & gas)
Wasatch	7350'	9628'	Shale & Sand (No oil or gas shows)

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
Green River	6330'	6330'
Wasatch	7350'	7350'



Holden Energy Corporation

___Exploration___Production___Development___Acquisition___

SUITE 600
LINCOLN CENTER
ARDMORE, OKLAHOMA 73401

(405) 226-3960

Transmittal Form

To: Utah Board of Oil, Gas and Mining
Suite 350, 3 Triad Center
355 West North Temple
Salt Lake City, UT 84180-1203

Date: April 17, 1989

Well Name and Location:

Ute 13-1
Sec. 13-4S-1E
Uintah County, Utah

Transmitted herewith are the following:

Form OGC-3 in duplicate

Signed By: Ken Boehmer

Please acknowledge receipt of this data by signing and returning the yellow copy of this transmittal form. Thank you.

Received By: Dani Young **Date:** 4.21.89

Form 3160-5
November 1983
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO: 14-20-H62-4441

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Holden Enerby Corporation

8. FARM OR LEASE NAME: Ute

3. ADDRESS OF OPERATOR: Lincoln Center - Suite 600 Ardmore, Oklahoma 73401

9. WELL NO.: 13-1

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface

330' FNL, 330' FEL, NE 1/4-NE 1/4

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 13, T4S, R1E

14. PERMIT NO.: 43-047-31846

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

12. COUNTY OR PARISH: Uintah

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)	[ ]		
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS: (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The 13-1 well is producing 2 bbls of water per day.

Application is hereby made to dispose of the produced water in an unlined pit on location.

Attached is a water sample from the well.

The water is currently being trucked to the Rooney Disposal well in Upalco.

Accepted by the State of Utah Division of Oil, Gas and Mining
Date: 6/27/91
By: [signature]

RECEIVED
JUL 17 1991
DIVISION OF OIL GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Agent DATE June 17, 1991

(This space for Federal or State office use)

APPROVED BY Federal Approval of this Action is Necessary TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Jetco Chemicals, Inc.
A Procter & Gamble Co.

P.O. BOX 1898
CORSICANA, TX. 75151

OFFICE:
TEL: 214/872-3011
FAX: 214/872-4216

PLANT:
TEL: 214/874-9500
FAX: 214/874-9596

WATER ANALYSIS REPORT

COMPANY Holden Energy ADDRESS _____ DATE: 6-17-91

SOURCE Production tank 13-1 DATE SAMPLED _____ ANALYSIS NO. _____

	Analysis	Mg/l (ppm)		*Meq/l	
1. PH	8.1				
2. H_2S (Qualitative)	3.0				
3. Specific Gravity	1.020				
4. Dissolved Solids		29,604			
5. Suspended Solids					
6. Anaerobic Bacterial Count	C/Ml				
7. Methyl Orange Alkalinity ($CaCO_3$)					
8. Bicarbonate (HCO_3)	HCO_3	560	÷61	9	HCO
9. Chlorides (Cl)	Cl	17,500	÷35.5	493	C
10. Sulfates (SO_4)	SO_4	10	÷48	0	SO
11. Calcium (Ca)	Ca	80	÷20	4	C
12. Magnesium (Mg)	Mg	0	÷12.2	0	M
13. Total Hardness ($CaCO_3$)		200			
14. Total Iron (Fe)		19.			
15. Barium (Qualitative)					
16. Phosphate Residuals		20			

RECEIVED
JUL 17 1991
DIVISION OF
OIL GAS & MINING

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

4	Ca	←	HCO_3	9
0	Mg	→	SO_4	0
498	Na	→	Cl	493

Saturation Values	Distilled Water 20°C
$CaCO_3$	13 Mg/l
$CaSO_4 \cdot 2H_2O$	2,090 Mg/l
$MgCO_3$	103 Mg/l

Compound	Equiv. Wt.	X Meq/l	= Mg/l
$Ca(HCO_3)_2$	81.04	4	324
$CaSO_4$	68.07		
$CaCl_2$	55.50		
$Mg(HCO_3)_2$	73.17		
$MgSO_4$	60.19		
$MgCl_2$	47.62		
$NaHCO_3$	84.00	5	420
Na_2SO_4	71.03		
NaCl	58.46	493	28,821

REMARKS _____

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*

RECEIVED
FEB 8 1994
DIVISION OF
OIL GAS & MINING

Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT -" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-H62-4441

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Tribal

7. UNIT AGREEMENT NAME:

1. OIL WELL [X] GAS WELL [ ] OTHER

8. FARM OR LEASE NAME: Ute Tribal 13-1

2. NAME OF OPERATOR: Holden Energy Corp.

9. WELL NO.: 13-1

3. ADDRESS OF OPERATOR: Suite 600 - Lincoln Center Ardmore, Oklahoma 73401

10. FIELD AND POOL, OR WILDCAT: Undesignated

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 330' FNL, 330' FEL, NE NE

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 13, T4S, R1E USB&M

14. PERMIT NO: 43-047-31846

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5131' G.R.

12. COUNTY OR PARISH: Uintah

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Application is hereby made to vent excess gas from the subject well. The current rate of gas being vented is 10 MCF/day or less. There are no gas pipelines in the area to market the gas.

18. I hereby certify that the foregoing is true and correct

SIGNED [signature] TITLE Agent DATE February 7, 1994

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2 1994

DIV. OF OIL, GAS & MINING

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
14-20-H62-4441

6. If Indian, Allottee or Tribe Name
UTE

7. If Unit or CA, Agreement Designation
N/A

1. Type of Well
[X] Oil Well [ ] Gas Well [ ] Other

8. Well Name and No.
Ute 13-1

2. Name of Operator
HOLDEN ENERGY CORPORATION

9. API Well No.
43-047-31846

3. Address and Telephone No.
LINCOLN CENTER, SUITE 600 ARDMORE, OK 73401

10. Field and Pool, or Exploratory Area
Undesignated

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
330' FNL and 330' FEL Section 13-T4S-R1E

11. County or Parish, State
Uintah, UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[ ] Other Change of Operator	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

There will be a change of operator for the above well.

Operator - FROM: Holden Energy Corporation
TO: Snyder Oil Corporation

RECEIVED

All operations will be covered by Nationwide Bond No. 57-93-54

MINERALS

VERNAL DIST.
ENG. WPB 12/1/94
GEOL.
E.S.
PET.
A.M.

14. I hereby certify that the foregoing is true and correct

Signed [signature] Title President Date 10-19-94

(This space for Federal or State office use)

Approved by [signature] Title ASSISTANT DISTRICT MANAGER MINERALS Date DEC 01 1994

Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:
1- LEC
2- LWP 7-PL
3- DTS 8-SJ
4- VLC 9-FILE
5- RJF
6- LWP

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

XXX Change of Operator (well sold) ☐ Designation of Agent
☐ Designation of Operator ☐ Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: **12-01-94**)

TO (new operator)	**SNYDER OIL CORPORATION**
(address)	**PO BOX 129**
	BAGGS WY 82321
phone	**(307)383-2800**
account no.	**N 1305**

FROM (former operator)	**HOLDEN ENERGY CORP.**
(address)	**LINCOLN CTR STE 600**
	ARDMORE OK 73401
phone	**(405) 226-3960**
account no.	**N 0825**

Well(s) (attach additional page if needed):

Name: **UTE 13-1/GRRV**	API: **43-047-31846**	Entity: **10931**	Sec **13**	Twp **4S**	Rng **1E**	Lease Type: **INDIAN**
Name: **UTE 21 #1/GRRV**	API: **43-047-31821**	Entity: **10818**	Sec **21**	Twp **4S**	Rng **1E**	Lease Type: **INDIAN**
Name: **UTE 25-1/GRRV**	API: **43-047-31848**	Entity: **10935**	Sec **25**	Twp **4S**	Rng **1E**	Lease Type: **INDIAN**
Name: **UTE TRIBAL 26 #1/GRRV**	API: **43-047-31738**	Entity: **10101**	Sec **26**	Twp **4S**	Rng **1E**	Lease Type: **INDIAN**
Name: **UTE 26 #1/GRRV**	API: **43-047-31822**	Entity: **10873**	Sec **26**	Twp **4S**	Rng **1E**	Lease Type: **INDIAN**
Name: _____	API: _____	Entity: _____	Sec ___	Twp ___	Rng ___	Lease Type: ___
Name: _____	API: _____	Entity: _____	Sec ___	Twp ___	Rng ___	Lease Type: ___

OPERATOR CHANGE DOCUMENTATION

Yes 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). (Rec'd 12-2-94)

Yes 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). (Rec'd 12-2-94)

N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) _____ If yes, show company file number: _____.

Yes 4. **(For Indian and Federal Wells ONLY)** The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of **Federal and Indian** well operator changes should take place prior to completion of steps 5 through 9 below.

Yes 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. (1-30-95)

Yes 6. Cardex file has been updated for each well listed above. 1-9-95

Yes 7. Well file labels have been updated for each well listed above. 2-9-95

Yes 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. (1-30-95)

Yes 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

OPERATOR CHANGE WORKSHEET (CONTINUED) Initial each item when completed. Write N/A if item is not applicable.

ENTITY REVIEW

LC 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) ____ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).

N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

BOND VERIFICATION (Fee wells only)

N/A/LC 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.

___ 2. A copy of this form has been placed in the new and former operators' bond files.

___ 3. The former operator has requested a release of liability from their bond (yes/no) ____. Today's date _____ 19___. If yes, division response was made by letter dated _____ 19___.

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

N/A 1. (Rule R615-2-10) The former operator/lessee of any **fee lease** well listed above has been notified by letter dated _____ 19___, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.
OCS 2/10/95

N/A 2. Copies of documents have been sent to State Lands for changes involving **State leases**.

FILMING

✓ 1. All attachments to this form have been microfilmed. Date: February 22 19 95.

FILING

___ 1. Copies of all attachments to this form have been filed in each well file.

___ 2. The original of this form and the original attachments have been filed in the Operator Change file.

COMMENTS

950130 B'm aprv. 12-1-94.

SOCO
Snyder Oil Corporation
P.O. Box 695
Vernal, Utah 84078
801/789-0323

March 19, 1996

Bureau of Land Management
710 S. 500 E.
Vernal, UT 84078

Utah State Division of Oil Gas & Mining
3 Triad Center, Suite #350
355 W. North Temple
Salt Lake City, Utah 84180-1203

RE: Site Security Diagrams

Gentlemen:

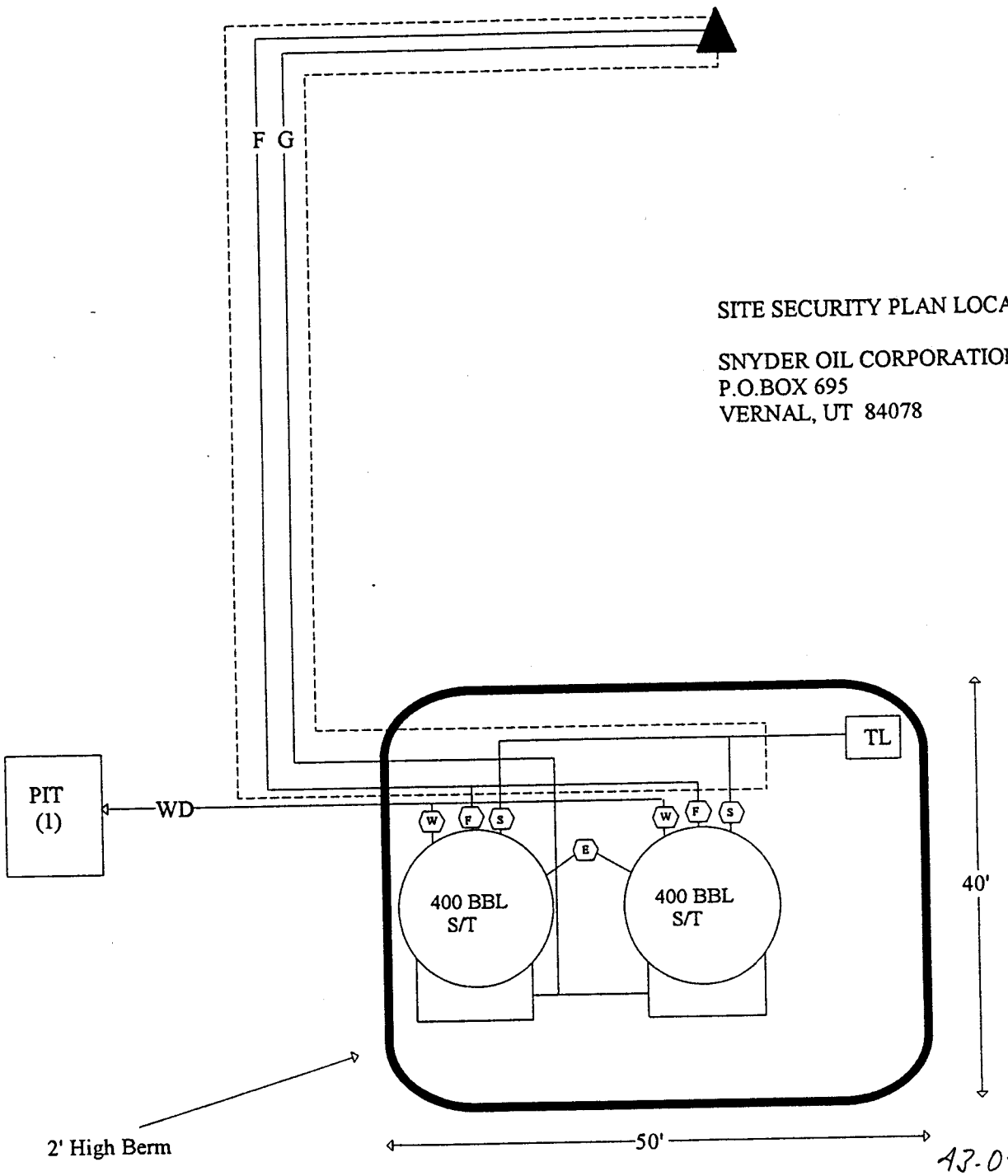
Enclosed are copies of additional Site Security Diagrams for wells operated by Snyder Oil Corporation. If you have any questions, please contact me at 801-789-0323.

Sincerely,

Lucy Nemec

Lucy Nemec
Senior Clerk

Ute Tribal 13-1



43-047-31846

Snyder Oil Corporation
UTE TRIBAL 13-1 NENE SEC 13 T4S R1E UINTAH COUNTY, UT LEASE # 1420-H624441
Prepared By: JT 7/26/95
BUYS & ASSOCIATES, INC. Environmental Consultants

N

FORM 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry a different reser
Use "APPLICATION FOR PERMIT -" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
14-20-H62-4376

6. If Indian, Allottee or Tribe Name
UTE INDIAN TRIBE

7. If Unit or CA, Agreement Designation
N/A

1. Type of Well
[X] Oil Well [ ] Gas Well [ ] Other

8. Well Name and No.
UTE 13-1

9. API Well No.
43-047-31846 **108925001**

2. Name of Operator
SNYDER OIL CORPORATION

10. Field and Pool, or Exploratory Area
FREEN RIVER/WILDCAT

3. Address and Telephone No.
1625 Broadway, Suite 2200, Denver, CO 80202

11. County or Parish, State
UINTAH, UTAH

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)
330' FNL & 330' FEL
NENE Sec. 13-T4S-R1E

12. **CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHE**

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[XX] Subsequent Report	[X] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[ ] Other _____	[ ] Dispose Water

(Note: Report results of multiple completion Completion or Recompletion Report and Lo

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is direc ally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Snyder Oil Corporation reports that we have done the following:
MIRUPU. POOH w/ rods & pump, ND wellhead, NUBOP, released TAC, strap OOH with prod tbg. Wireline set 7" RBP @ 6019'. RIH w/ 4" csg gun & perf'd the following intervals (2JSPF, 90 degree phased) per the compensated neutron Lithodensity log dated 8/27/88.

5988 - 5994', 6', 13 holes (Y-7)
5944 - 5956', 12', 25 holes (Y-7)

Frac'd Y-7 (5988-94' & 5944 - 56') w/ 19,956 gal 2% KCL borate gel & 48M# 20/40 mesh sand. RIH w/ 7" RBP set same at 5850'. RIH w/ 4" csg gun & perf'd the following interval (2 JSPF, 90 degree phased) per the compensated neutron lithodensity log dated 8/27/88:

5808 - 5819',11', 23 holes(Y-6)

Frac'd w/ 18,816 gal of 2% KCL borate gel & 44M# 20/40 mesh sand, flow'd back. TIH to 5765' circ clean to top RBP, released same, POOH w/ top RBP. TIH tag sand @ 5926', C/O to lower RBP. Released same. POOH w/ RBP. RIH w/ prod tbg, NDBOP, set tac w/ NUHW, RIH w/ rods & pump, space out, hang on, RWTP 3/4/97.

RECEIVED
JUN 13 1997
DIV. OF OIL, GAS & MINING

WO tax credit - 9/97.

14. I hereby certify that the foregoing is true and correct

Signed _____ Title **Sr. Operations Engineer** Date **02-Jun-97**

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____

Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudu statements or representations as to any matter within its jurisdiction.

***See Instruction on Reverse Side**

FORM 3160-4
(November 1983)
(formerly 9-330)

SUBMIT IN DUPLICATE* (See other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-H62-4376

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: UTE INDIAN TRIBE

1a. TYPE OF WORK: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

1b. TYPE OF WELL: NEW WELL [ ] WORK OVER [X] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: UTE 13

2. NAME OF OPERATOR: SNYDER OIL CORPORATION

9. WELL NO.: 1

3. ADDRESS OF OPERATOR: 1625 BROADWAY, SUITE 2200, DENVER, CO. 80202

10. FIELD AND POOL OR WILDCAT: GREEN RIVER/WILDCAT

4. LOCATION OF WELL (Report locations clearly and in accordance with any State requirements.*)
At Surface: 330' FNL & 330' FEL (NENE)
At top prod. Interval reported below: SAME
At total depth: SAME

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 13-T4S-R1E

14. PERMIT NO.	DATE ISSUED	12. COUNTY OR PARISH	13. STATE
43-047-31846	01-Aug-88	UINTAH	UTAH

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
10-Aug-88	20-Sep-88	15-Nov-88	5131'	5132'

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
9628'	7380'	N/A	⟶	T.D.	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION--TOP, BOTTOM, NAME (MD AND TVD)*
GREEN RIVER - 6330' TO 7350'

25. WAS DIRECTIONAL SURVEY MADE: NO

26. TYPE ELECTRIC AND OTHER LOGS RUN
DUAL LATEROLOG - NEUTRON DENSITY ORIGINAL DRILL

27. WAS WELL CORED: NO

23. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
10-3/4"	41	369'	13-3/8"	Circulated to surface	N/A
7"	26	7430'	8-3/4"	7430' to 2080'	N/A

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (
N/A				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8	7250'	N/A

31. PERFORMATION RECORD (Interval, size and number)
6392 - 6400 - 1/2 - 8
6348 - 58 - 1/2 - 9
6510 - 18 - 1/2 - 11
5988 - 94', 13holes; 5944 - 56', 25 holes
5808 - 19' 23 holes
6682 - 90 - 1/2 - 6
6814 - 24 - 1/2 - 8
7224 - 28 - 1/2 - 10
7300 - 06 - 1/2 - 12

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6348 ' to 7306'	336,000 KCL water & 670,000 # 20/40 sand
5944 - 5994'	19,956 gal 2% KCL borate gel & 48M# 20/40
5808 - 5819'	18,816 gal 2% KCL borate gel & 44M# 20/40

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping--size and type of pump)	WELL STATUS (Producing or shut-in)
15-Nov-88	Pumping - 1-3/4"	Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL--BBLS.	GAS--MCF.	WATER--BBL.	GAS-OIL RATIO
10-Dec-88	24	1		85	5	10	.06:1

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL--BBL.	GAS--MCF.	WATER--BBL.	OIL GRAVITY-API (CORR.)
N/A	10#	⟶	85	5	10	38

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
Used for fuel

TEST WITNESSED BY: Bill Nyland

35. LIST OF ATTACHMENTS
Dual Laterolog - Neutron Density

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED [signature] TITLE Sr. Operations Engineer DATE 6/12/97

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

RECEIVED
JUN 13 1997
DIV. OF OIL, GAS & MINING

PRODUCTION - INTERVAL

DATE FIRST PRODUCED	TEST DATE	HOURS TESTED	TEST PRODUCTI ——>	OIL BBL	GAS MCF	WATER BBL	OIL GRAVITY CORR. API	GAS DISPOSITION	PRODUCTION METHOD
CHOKE SIZE	FLOW. TUBING PRESSURE	CASING PRESSURE	24 HR. RATE ——>	OIL BBL	GAS MCF	WATER BBL	GAS:OIL RATIO	ZONE STATUS: (PRODUCING, SHUT-IN, PLUGGED, ETC.)	

PRODUCTION - INTERVAL D

DATE FIRST PRODUCED	TEST DATE	HOURS TESTED	TEST PRODUCTI ——>	OIL BBL	GAS MCF	WATER BBL	OIL GRAVITY CORR. API	GAS DISPOSITION	PRODUCTION METHOD
CHOKE SIZE	FLOW. TUBING PRESSURE	CASING PRESSURE	24 HR. RATE ——>	OIL BBL	GAS MCF	WATER BBL	GAS:OIL RATIO	ZONE STATUS: (PRODUCING, SHUT-IN, PLUGGED, ETC.)	

30. PLEASE ATTACH AN 8.5" X 11" BASIC SKETCH SHOWING ALL SURFACE EQUIPMENT ASSOCIATED WITH PRODUCTION, FLUID SEPARATION, FLUID STORAGE, AND GAS MEASUREMENT FOR THE WELL. SHOW APPROXIMATE DISTANCES OF EQUIPMENT FROM WELLBORE. INCLUDE WATER DISPOSAL PITS IF APPLICABLE. OUTLINE UNDERGROUND FLOWLINES AND LIST ANY OTHER WELLS SHARING THE SURFACE EQUIPMENT.

31. SUMMARY OF POROUS ZONES (INCLUDE AQUIFERS):

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF: CORED INTERVALS AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TEST, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES AND RECOVERIES.

FORMATION	TOP	BOTTOM	DESCRIPTIONS, CONTENTS, ETC.
Green River	6330'	7350'	Shale & Sand (some sand w/ oil & gas)
Wasatch	7350'	9628'	Shale & Sand (No Oil or Gas Show)

32. FORMATION (LOG) MARKERS

NAME	TOP MEAS.DEPTH
Green River	6330'
Wasatch	7350'

33. ADDITIONAL REMARKS (INCLUDE PLUGGING PROCEDURE & ATTACH CEMENT VERIFICATION):

34. CIRCLE ENCLOSED ATTACHMENTS:

1. MECHANICAL LOGS (1 full set)
2. GEOLOGIC REPORT
3. WELLBORE SKETCH (See #2
4. DST REPORT
5. DIRECTIONAL SURVEY
6. SUNDRY NOTICE FOR PLUGGING & CEMENT VERIFICATION
7. CORE ANALYSIS
8. OTHER: Form 10 and Mud log

35. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED: _____

PRINT: _____ TITLE: _____ DATE: _____

SOCO
Snyder Oil Corporation
Southern Region
1200 Smith, Suite 3300
Houston, Texas 77002
713-646-6600

June 7, 1999

State of Utah
Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: $80,000 Surety Blanket P & A Bond #5736975

Dear Sir or Madam:

Santa Fe Snyder Corporation was formed when Snyder Oil Corporation was merged into Santa Fe Energy Resources, Inc. on May 5, 1999. Copies of the approved merger, issued by the Delaware Secretary of State, are enclosed for your files.

As this merger causes "Snyder" to cease to exist and their activities are covered by bond #JZ7777, please release bond # 5736975 and return it to the sender.

Thank you for your assistance in this matter.

Very truly yours,

Phillip W. Bode

Enclosure

Santa Fe Energy Resources, Inc.

June 7, 1999

State of Utah
Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RE: $80,000 Surety Blanket P & A Bond #JZ7777

Dear Sir or Madam:

Enclosed is the above bond for Santa Fe Snyder Corporation. This corporation was formed when Snyder Oil Corporation was merged into Santa Fe Energy Resources, Inc. on May 5, 1999. Copies of the approved merger, issued by the Delaware Secretary of State, are enclosed for your files.

Thank you for your assistance in this matter.

Very truly yours,

Phillip W. Bode

Enclosure

1616 South Voss, Suite 1000
Houston, Texas 77057
713/507-6000

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

In Reply Refer To:
3106
U-19037 et al
(UT-932)

JUL 1 1999

NOTICE

Santa Fe Snyder Corporation
840 Gessner, Suite 1400
Houston, TX 77024

: Oil and Gas

Merger Recognized
Name Change Recognized

Acceptable evidence has been filed in this office concerning the merger of Snyder Oil Corporation into Santa Fe Energy Resources, Inc. and the name being subsequently changed to Santa Fe Snyder Corporation as the surviving entity.

For our purposes the merger and name change are recognized effective June 1, 1999, per company request.

The oil and gas lease files identified on the enclosed exhibits have been noted as to the merger and name change. The exhibits were compiled from lists supplied by Santa Fe Snyder Corporation. We have not adjudicated the case files to determine if the entities affected by the merger and name change hold an interest in the leases identified, nor have we attempted to identify leases where the entities are the operator on the ground, maintaining no vested record title or operating rights interest. We are notifying the Minerals Management Service and all applicable BLM offices of the merger and name change by a copy of this notice. If additional documentation for a change of operator are required by our Field Offices, you will be contacted by them.

By recognition of the merger and the name change the principal on bonds held by Snyder and Santa Fe are automatically changed to Santa Fe Snyder Corporation. Riders to Nationwide Bond No. 400JF 5493 (BLM Bond No. UT0855) and Nationwide Bond No. 5473615 (BLM Bond No. WY2912) have been filed in the Utah State Office. It is the request of Santa Fe Snyder Corporation to change the name on BLM Bond No. UT0855 to reflect the merger/name change, and to terminate the period of liability on BLM Bond No. WY2912. A decision regarding this matter will follow in due course.

Christopher J. Merritt

Christopher J. Merritt
Acting Group Leader,
Minerals Adjudication Group

Enclosures
1. Santa Fe Energy Resources, Inc. Exhibit of Leases
2. Snyder Oil Corporation Exhibit of Leases

cc: All State Offices
Moab Field Office
Vernal Field Office
MMS–Reference Data Branch, MS 3130, P.O. Box 5860, Denver, CO 80217
State of Utah, DOGM, Attn: Kristen Risbeck (Ste. 1210) Box 145801, SLC, UT 84114-5801
St. Paul Fire & Marine Insurance Co., 385 Washington St., St. Paul, MN 55102
SAFECO Insurance Company of America, SAFECO Plaza, Seattle, WA 98185
Santa Fe Snyder Corp., Attn: Phyllis Sobotik, 1625 Broadway, #2200, Denver, CO 80202
Irene Anderson (UT-932)
Teresa Thompson (UT-931)

SANTA FE LEASES

LESSOR	STATE
BLM NMNM-92488	NM
BLM NMNM-45235	NM
BLM NMNM-24877	NM
BLM NMNM-93398	NM
BLM NMNM-96591	NM
BLM NMNM-77894	NM
BLM NMNM-65900	NM
BLM NMNM-87977	NM
BLM NMNM-65864	NM
BLM NMNM-95879	NM
BLM NMNM-97394	NM
BLM NMNM-98005	NM
BLM NMNM-98006	NM
BLM NMNM-98010	NM
BLM NMNM-95418	NM
BLM NMNM-25667	NM
BLM NMNM-98300	NM
BLM NMNM-98033	NM
BLM NMNM-998271	NM
BLM NMNM-98305	NM
BLM NMNM-91179	NM
BLM NMNM-85420	NM
BLM NMNM-100956	NM
BLM NMNM-58393	NM
BLM OKNM 23555	OK
BLM NM 15074 (OKLA)	OK
BLM UTU-19037	UT
BLM UTU-55626	UT
BLM UTU-38354	UT
BLM UTU-38401	UT
BLM UTU-38430	UT
BLM UTU-42823	UT
BLM WYEV-026201	WY
BLM WYW-35860	WY
BLM WYW-47198	WY
BLM WYEV-022765	WY
BLM WYEV-023941	WY
BLM WYEV-026196	WY
BLM WYEV-026201	WY
BLM WYEV-026202	WY
BLM WYEV-026204	WY
BLM WYEV-026205	WY
BLM WYEV-026208	WY
BLM WYEV-026209	WY
BLM WYW-04674	WY
BLM WYW-023207	WY
BLM WYW-023211	WY
BLM WYW-0268735	WY
BLM WYCHEY-037066	WY
BLM WYW-58075	WY
BLM WYW-17284	WY
BLM WYW-17296	WY
BLM WYW-17282(A)	WY
BLM WYW-55067	WY

LESSOR	STATE
BLM WYW-59145	WY
BLM WYW-43661	WY
BLM WYW-0311938	WY
BLM WYW-52562	WY
BLM WYW EV-022932	WY
BLM WYW-27645	WY
BLM WYW-043930-A	WY
BLM WYW EV-026056	WY
BLM WYW-0322610	WY
BLM WYW-0320213	WY
BLM EV-023313-A	WY
BLM WYW-9578	WY
BLM WYW-96918	WY
BLM WYW-0320078	WY
BLM WYW-035599	WY
BLM WYW-2120	WY
BLM WYEV-024469	WY
BLM WYW-0136175	WY
BLM WYW-0136177	WY
BLM WYW-05991	WY
BLM WYW-02736	WY
BLM WYW EV-025548	WY
BLM EV-023313-E	WY
BLM EV-023313-B	WY
BLM WYW-21124	WY
BLM WYW EV-022931	WY
BLM WYW-61240	WY
BLM WYW-18480	WY
BLM WYW-51654	WY
BLM WYW-50676	WY
BLM COC-036289 A&B	WY
BLM WYW-0942	WY
BLM WYW-63210	WY
BLM WYW-66866	WY
BLM WYW-102793	WY
BLM WYW-107726	WY
BLM W-70335	WY
BLM W-70496	WY
BLM W-70326	WY
BLM W-55746	WY
BLM W-56480	WY

SNYDER LEASES

LESSOR	STATE	LESSOR	STATE
USA COC-33237	CO	USA U-0136484	UT
USA COC-36719	CO	USA U-37573	UT
USA LAES 49122	LA	USA U-33433	UT
USA LAES 49123	LA	USA U-47172	UT
USA LAES 49124	LA	USA U-37355	UT
USA LAES 49125	LA	USA UTU-15855	UT
USA LAES 49127	LA	USA U-0142175	UT
USA LAES 49128	LA	USA UTU-02651	UT
USA LAES 49129	LA	USA UTU-02651-B	UT
USA LAES 49130	LA	USA U-34705	UT
USA LAES 49131	LA	USA U-40729	UT
USA LAES 49132	LA	USA U-58097	UT
USA LAES 49133	LA	USA U-30289	UT
USA LAES 49134	LA	USA UTU-72632	UT
USA LAES 49135	LA	USA UTU-73013	UT
USA LAES 49136	LA	USA UTU-64376	UT
USA LAES 49137	LA	USA UTU-38261	UT
USA LAES 49138	LA	USA UTU-28212	UT
USA LAES 49139	LA	USA UTU-28213	UT
USA LAES 49140	LA	USA UTU-38419	UT
USA LAES 49141	LA	USA U-53861	UT
USA LAES 49142	LA	USA UTU-38418	UT
USA LAES 49143	LA	USA UTU-66401	UT
USA LAES 49144	LA	USA U-38423	UT
USA LAES 49145	LA	USA UTU-38425	UT
USA LAES 49146	LA	USA U-38421	UT
USA LAES 49147	LA	USA UTU-38428	UT
USA LAES 49148	LA	USA U-38420	UT
USA LAES 49149	LA	USA UTU-34350	UT
USA LAES 49150	LA	USA UTU-39223	UT
USA LAES 49151	LA	USA U-64923	UT
USA LAES 49152	LA	USA UTU-40736	UT
USA LAES 49153	LA	USA U-075939	UT
USA LAES 49154	LA	USA U-70235	UT
USA LAES 49155	LA	USA UTU-44426	UT
USA LAES 49156	LA	USA UTU-57495	UT
USA LAES 49157	LA	USA UTU-57503	UT
USA LAES 49158	LA	USA UTU-52106	UT
USA LAES 49159	LA	USA UTU-59121	UT
USA LAES 49160	LA	USA UTU-73009	UT
USA LAES 49161	LA	USA UTU-73010	UT
USA LAES 49162	LA	USA UTU-50490	UT
USA LAES 49163	LA	USA UTU-65126	UT
USA LAES 49164	LA	USA UTU-49228	UT
USA LAES 49165	LA	USA UTU-53127	UT
USA LAES 49166	LA	USA UTU-65132	UT
USA LAES 49167	LA	USA UTU-63951	UT
USA LAES 49168	LA	USA UTU-47483	UT
USA LAES 49169	LA	USA UTU-63978	UT
USA LAES 49170	LA	USA UTU-69116	UT
USA LAES 49171	LA	USA UTU-65138	UT

SNYDER LEASES

LESSOR	STATE	LESSOR	STATE
USA LAES 49172	LA	USA UTU-54774	UT
USA LAES 49173	LA	USA UTU-71230	UT
USA LAES 49174	LA	USA UTU-71234	UT
USA LAES 49175	LA	USA UTU-44799	UT
USA LAES 49176	LA	USA UTU-57512	UT
USA LAES 49177	LA	USA UTU-53084	UT
USA LAES 49178	LA	USA UTU-53938	UT
USA LAES 49179	LA	USA UTU-61936	UT
USA LAES 49180	LA	USA UTU-47127	UT
USA LAES 49181	LA	USA UTU-53918	UT
USA LAES 49183	LA	USA UTU-47484	UT
USA LAES 49194	LA	USA UTU-53946	UT
USA LAES 49198	LA	USA UTU-53941	UT
USA LAES 49199	LA	USA UTU-42531	UT
USA LAES 49200	LA	USA U-49245	UT
USA LAES 49201	LA	USA U-50802	UT
USA MTM-38582-A	MT	USA UTU-0647	UT
USA MTM-63708	MT	USA UTU-50687	UT
USA M-13323 (ND)	ND	USA UTU-37116	UT
USA M-68863 (SD)	SD	USA UTU-59122	UT
USA UTU-70189	UT	USA UTU-63985	UT
USA UTU-73175	UT	USA UTU-52298	UT
USA UTU-73434	UT	USA UTU-7386	UT
USA UTU-73435	UT	USA UTU-67178	UT
USA UTU-73444	UT	USA UTU-67549	UT
USA UTU-73450	UT	USA UTU-74416	UT
USA U-8345	UT	USA UTU-74413	UT
USA U-14646	UT	USA UTU-73900	UT
USA U-66746	UT	USA UTU-67868	UT
USA UTU-42469	UT	USA UTU-74414	UT
USA U-65222	UT	USA UTU-49530	UT
USA U-61263	UT	USA UTU-53860	UT
USA UTU-29535	UT	USA UTU-34711	UT
USA U-25880	UT	USA UTU-46699	UT
USA U-65223	UT	USA UTU-73643	UT
USA U-29797	UT	USA UTU-0141804	UT
USA UTU-0109054	UT	USA UTU-75091	UT
USA UTU-8346	UT	USA UTU-75097	UT
USA U-8347	UT	USA UTU-74972	UT
USA UTU-8344	UT	USA UTU-75096	UT
USA U-8344-A	UT	USA UTU-74415	UT
USA UTU-8348	UT	USA UTU-38401	UT
USA U-38424	UT	USA UTU-38411	UT
USA U-38427	UT	USA UTU-31260	UT
USA SL-065841-A	UT	USA UTU-59654	UT
USA UTU-31736	UT	USA U-14219	UT
USA U-38426	UT	USA UTU-30123	UT
USA U-44090-A	UT	USA UTU-34714	UT
USA U-71694	UT	USA UTU-10134	UT
USA U-72028	UT	USA UTU-10830	UT
USA U-51026	UT	USA UTU-14223	UT

Santa Fe Snyder Corporation

July 2, 1999

Utah Division of Oil, Gas & Mining
1594 W. North Temple, Suite 1210
P. O. Box 145801
Salt Lake City, Utah 84114-5801

Attn.: Ms. Kristen Risbeck

RE: Company Merger
Surety Bond Number - JZ 7777
Operator Number – N2000

Dear Ms. Risbeck:

Snyder Oil Corporation (SOCO) and Santa Fe Energy Resources, Inc. (Santa Fe) have merged to form Santa Fe Snyder Corporation (SFS). The legal acceptance date of the merger is May 5, 1999. However in an effort to simplify documentation issues, SFS requests that June 1, 1999 be used as the effective date of merger.

Please change all operated facilities, Applications to Drill (approved and in process) and any other regulatory filings from Snyder Oil Corporation to Santa Fe Snyder Corporation. Attached is the following information in support of this request.

Copy of Merger Certificate
Copy of the Office of the Secretary of State's Acceptance
Sundry Notices for Properties Located on Fee or State Land
Sundry Notice for Federal Properties
Spreadsheet of all Utah Facilities Operated by SOCO

All correspondence, documents, notifications, etc. should continue to be sent to SFS at the following address

1625 Broadway, Suite 2200
Denver, CO 80202

Please inform SFS when this request has been accepted and the changes are finalized. If any questions arise or additional information is required, please contact me at 303-592-8668.

Sincerely,

Phyllis Sobotik
Sr. Regulatory Specialist

/ps
Enclosures:

1625 Broadway
Suite 2200
Denver, Colorado 80202
303/592-8500
Fax 303/592-8600

State of Delaware

Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"SNYDER OIL CORPORATION", A DELAWARE CORPORATION,

WITH AND INTO "SANTA FE ENERGY RESOURCES, INC." UNDER THE NAME OF "SANTA FE SNYDER CORPORATION", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE FIFTH DAY OF MAY, A.D. 1999, AT 11 O'CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

Edward J. Freel, Secretary of State

0774411 8100M

991177495

AUTHENTICATION: 9725623

DATE: 05-05-99

CERTIFICATE OF MERGER

Merger of Snyder Oil Corporation, a Delaware corporation
With and Into
Santa Fe Energy Resources, Inc., a Delaware corporation

Pursuant to the provisions of Section 251 of the Delaware General Corporation Law, the undersigned certifies as follows concerning the merger (the "Merger") of Snyder Oil Corporation, a Delaware corporation, with and into Santa Fe Energy Resources, Inc., a Delaware corporation, with Santa Fe Energy Resources, Inc. as the surviving corporation (the "Surviving Corporation").

1. The Agreement and Plan of Merger, dated as of January 13, 1999 (the Agreement and Plan of Merger being hereinafter referred to as the "Merger Agreement") has been approved, adopted, certified, executed and acknowledged by Snyder Oil Corporation and Santa Fe Energy Resources, Inc. in accordance with Section 251 of the Delaware General Corporation Law.

2. The Merger contemplated in the Merger Agreement and this Certificate of Merger will be effective immediately upon the filing of this Certificate of Merger

3. The name of the Surviving Corporation shall be Santa Fe Energy Resources, Inc. which shall be changed herewith to Santa Fe Snyder Corporation.

4. Article FIRST of the Restated Certificate of Incorporation of Santa Fe Energy Resources, Inc. is amended, effective as of the date hereof, to read in its entirety as follows:

"FIRST: The name of the corporation (hereinafter referred to as the "Corporation") is Santa Fe Snyder Corporation."

and that the first paragraph of Article FOURTH of the Restated Certificate of Incorporation of Santa Fe Energy Resources, Inc. is amended, effective as of the date hereof, to read in its entirety as follows:

"FOURTH: The total number of shares of all classes of capital stock which the Corporation shall have authority to issue is 350,000,000, of which 50,000,000 shares shall be Preferred Stock, par value $.01 per share, and 300,000,000 shares shall be Common Stock, par value $.01 per share."

The Restated Certificate of Incorporation of Santa Fe Energy Resources, Inc., as amended, in effect at the effective time of the Merger shall be the certificate of incorporation of the

Surviving Corporation.

5. The executed Merger Agreement is on file at the principal place of business of the Surviving Corporation, 1616 South Voss Road, Houston, Texas 77057.

6. A copy of the Merger Agreement will be furnished by the Surviving Corporation, on request and without cost, to any stockholder of Snyder Oil Corporation or Santa Fe Energy Resources, Inc.

Dated this 5th day of May, 1999.

SANTA FE ENERGY RESOURCES, INC.

By: David L Hicks

Name: David L. Hicks
Title: Vice President — Law and General Counsel

FORM 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well
☐ Oil Well ☐ Gas Well ☐ Other See Attached List

2. Name of Operator
Santa Fe Snyder Corporation Attn.: Phyllis Sobotik

3. Address and Telephone No.
1625 Broadway, Suite 2200, Denver, CO 80202 303-592-8668

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)
See Attached List

5. Lease Designation and Serial No.
See Attached List

6. If Indian, Allottee or Tribe Name
See Attached List

7. If Unit or CA, Agreement Designation

8. Well Name and No.
See Attached List

9. API Well No.
See Attached List

10. Field and Pool, or Exploratory Area
See Attached List

11. County or Parish, State
See Attached List

12. **CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☒ Other Change of Operator	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Snyder Oil Corporation and Santa Fe Energy Resources, Inc. have merged to form Santa Fe Snyder Corporation. The legal acceptance date of the merger is May 5, 1999. However in an effort to simplify documentation issues, Santa Fe Snyder Corporation requests that June 1, 1999 be used as the effective date of merger.
A copy of the Merger Certificate and of the Office of the Secretary of State's Acceptance is attached.

Nationwide BLM Bond Number - UT-0855

Surety Bond Number - 400JF 5433

RECEIVED
JUL - 9 1999
DIV. OF OIL, GAS & MINING

Please contact Phyllis Sobotik at 303-592-8668 if you have any questions.

14. I hereby certify that the foregoing is true and correct
Signed Phyllis Sobotik Title **Sr. Regulatory Specialist** Date **01-Jul-99**

(This space for Federal or State office use)
Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

***See Instruction on Reverse Side**

UTAH FACILITIES

Lease	Unit Name	Tribe Name	Field	Stat	County	1/41/4	S	T	R	Lease Number	Mineral Type	API Number	Comments
State #16-1-O			Monument Butte (Castle Peak)	INA	Duchesne	SW/SE	16	9S	16E	ML 16532	STATE	43-013-31022	10200
State #16-2-N			Monument Butte (Castle Peak)	ACT	Duchesne	SE/SW	16	9S	16E	ML 16532	STATE	43-013-31094	10199
Stirrup #32-1J			Horseshoe Bend	ACT	Uintah	NW/SE	32	6S	21E	ML 40226	STATE	43-047-31646	9614
Stirrup Federal #29-2			Horseshoe Bend	INA	Uintah	NW/SE	29	6S	21E	U 46699	FED	43-047-31508	11055
Stirrup Federal #29-3	Horseshoe Bend		Horseshoe Bend	INA	Uintah	SE/SE	29	6S	21E	U 46699	FED	43-047-31634	12323
Stirrup State 32-1	Horseshoe Bend		Horseshoe Bend	ACT	Uintah	NW/NE	32	6S	21E	ML 22036	STATE	43-047-31557	12323
Stirrup State #32-2	Horseshoe Bend		Horseshoe Bend	ACT	Uintah	SE/NE	32	6S	21E	ML 22036	STATE	43-047-31626	12323
Stirrup State #32-6	Horseshoe Bend		Horseshoe Bend	WIW	Uintah	NE/NE	32	6S	21E	ML 22036	STATE	43-047-32784	Injector 12323
UTD Chasel #24-14			Eight Mile Flat North (Monument Butte)	INA	Uintah	SE/SW	24	9S	18E	U 67549	FED	43-047-32566	11798
UTD Kidd #20-16			Eight Mile Flat North (Monument Butte)	ACT	Uintah	SE/SE	20	9S	18E	U 67178	FED	43-047-32568	11727
Ute Tribal #13-1		Ute	Leland Bench	ACT	Uintah	NE/NE	13	4S	1E	14-20-H62-4376	FED	43-047-31846	10931
Ute Tribal #15-1		Ute	Windy Ridge West (Leland Bench)	INA	Uintah	SW/SW	15	4S	1E	14-20-H62-4527	FED IND	43-047-31936	11218
Ute Tribal #16-1		Ute	Windy Ridge West (Leland Bench)	ACT	Uintah	SE/SE	16	4S	11	14-20-H62-4526	FED IND	43-047-31933	11219
Ute Tribal #21-1		Ute	Windy Ridge West (Leland Bench)	ACT	Uintah	NE/NE	21	4S	1E	14-20-H62-4418	FED IND	43-047-31821	10818
Ute Tribal #21-W-1 (Wtr Supply)		Ute	Windy Ridge West (Leland Bench)	INA	Uintah	NE/NE	21	4S	1E	14-20-H62-4418	FED IND		On same pad w/21-1
Ute Tribal #21-2H		Ute	Windy Ridge West (Leland Bench)	ACT	Uintah	SE/NE	22	4S	1E	14-20-H62-4418	FED IND	43-047-32570	11725
Ute Tribal #21-3B		Ute	Windy Ridge West (Leland Bench)	ACT	Uintah	NW/NE	21	4S	1E	14-20-H62-4418	FED IND	43-047-32571	11770
Ute Tribal #21-4G		Ute	Windy Ridge West (Leland Bench)	INA	Uintah	SW/NE	21	4S	1E	14-20-H62-4418	FED IND	43-047-32664	11766
Ute Tribal #21-5C		Ute	Windy Ridge West (Leland Bench)	TAD	Uintah	NE/NW	21	4S	1E	14-20-H62-4418	FED IND	43-047-32690	11860
Ute Tribal #22-1		Ute	Windy Ridge West (Leland Bench)	INA	Uintah	NW/NW	22	4S	1E	14-20-H62-4528	FED IND	43-047-31934	11220
Ute Tribal #22-2		Ute	Windy Ridge West (Leland Bench)	INA	Uintah	SW/NW	22	4S	1E	14-20-H62-4528	FED IND	43-047-32097	11343
Ute Tribal #22-4I		Ute	Windy Ridge West (Leland Bench)	ACT	Uintah	NE/SE	22	4S	1E	14-20-H62-4528	FED IND	43-047-32572	11748
Ute Tribal #23-1	Leland Bench	Ute	Windy Ridge East (Leland Bench)	ACT	Uintah	SW/SE	23	4S	1E	14-20-H62-4529	FED IND	43-047-31935	12010
Ute Tribal #25-1	Leland Bench	Ute	Windy Ridge East (Leland Bench)	ACT	Uintah	SW/NW	25	4S	1E	14-20-H62-4417	FED IND	43-047-31848	12010
Ute Tribal #25-F	Leland Bench	Ute	Windy Ridge East (Leland Bench)	ACT	Uintah	SE/NW	25	4S	1E	14-20-H62-4823	FED IND	43-047-32809	12010
Ute Tribal #26-1	Leland Bench	Ute	Windy Ridge East (Leland Bench)	ACT	Uintah	SE/NE	26	4S	1E	U 35A	FED	43-047-31822	Injector 12010
Ute Tribal #26-1C	Leland Bench	Ute	Windy Ridge East (Leland Bench)	ACT	Uintah	NE/NE	26	4S	1E	U 35A	FED	43-047-31738	12010
Ute Tribal #26-3G	Leland Bench	Ute	Windy Ridge East (Leland Bench)	ACT	Uintah	SE/NE	26	4S	1E	U 35A	FED	43-047-32667	12010
Ute Tribal #26-5J	Leland Bench	Ute	Windy Ridge East (Leland Bench)	ACT	Uintah	NW/SE	26	4S	1E	U 35A	FED	43-047-32574	12010
Ute Tribal #27-1		Ute	Windy Ridge West (Leland Bench)	ACT	Uintah	NW/NW	27	4S	1E	14-20-H62-4530	FED IND	43-047-31942	11221
Walker Hollow Unit #6	Walker Hollow		Walker Hollow (Horseshoe Bend)	INA	Uintah	SE/SE	8	7S	23E	U 02651	FED	43-047-31034	2760
Walker Hollow Unit #J-8	Walker Hollow		Walker Hollow (Horseshoe Bend)	INA	Uintah	NW/SE	8	7S	23E	U 02651	FED	43-047-31092	2760
W. Walker Fed. #1C-33			Horseshoe Bend	ACT	Uintah	NW/SW	33	6S	22E	U 38411	FED	43-047-30815	2715
W. Walker St. #1C-32			Horseshoe Bend	ACT	Uintah	NE/SW	32	6S	22E	ML 33526	STATE	43-047-30877	2720
West Walker St. #2-32			Horseshoe Bend	INA	Uintah	NW/NE	32	6S	22E	ML 33526	STATE	43-047-30878	2721
White River #1-14			Natural Buttes	INA	Uintah	NE/NW	14	10S	23E	U 38427	FED	43-047-30481	1500
Willow Creek Unit #1			Pack Mountain (Willow Creek)	INA	Uintah	SE/NE	27	11S	20E	U 34705	FED	43-047-31775	10804
Willow Creek Unit #2			Brown Canyon (Willow Creek)	INA	Uintah	SE/SW	5	11S	20E	U 39223	FED	43-047-31818	11604
Wolf Government Federal # 1			Horseshoe Bend	ACT	Uintah	NE/NE	5	7S	22E	U 075939	FED	43-047-15609	2755

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

Attach all documentation received by the division regarding this change.
Initial each listed item when completed. Write N/A if item is not applicable.

Routing:

1-KDR	6-KAS
2-GLH	7-SJ
3-JRB	8-FILE
4-CDW	9-
5-KDR	

☐ Change of Operator (well sold)
☐ Designation of Operator
☐ Designation of Agent
☒ Operator Name Change Only (MERGER)

The operator of the well(s) listed below has changed, effective: 6-1-99

TO: (new operator) SANTE FE SNYDER CORPORATION
(address) P.O. BOX 129
BAGGS, WYOMING 82321

Phone: (307)383-2800
Account no. N2000 (6-24-99)

FROM: (old operator) SNYDER OIL CORPORATION
(address) P.O. BOX 129
BAGGS, WYOMING 82321

Phone: (307)383-2800
Account no. N1305

WELL(S) attach additional page if needed: *HORSESHOE BEND, LOVE, EAST BENCH & WALKER HOLLOW UNITS

Name	API	Entity	S	T	R	Lease
SEE ATTACHED	43-047-31846					

OPERATOR CHANGE DOCUMENTATION

DR 1. (r649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator (attach to this form). (Rec'd 6.11.99)

DR 2. (r649-8-10) Sundry or other legal documentation has been received from the **NEW** operator (Attach to this form). (Rec'd 6.11.99)

DR 3. The **Department of Commerce** has been contacted if the new operator above is not currently operating any wells in Utah. Is the company **registered with the state?** (yes/no) _____ If yes, show company file number: #011879.

DR 4. **FOR INDIAN AND FEDERAL WELLS ONLY.** The BLM has been contacted regarding this change. Make note of BLM status in comments section of this form. BLM approval of **Federal** and **Indian** well operator changes should ordinarily take place prior to the division's approval, and before the completion of **steps 5 through 9** below. (Rec'd 7.6.99)

KR 5. Changes have been entered in the **Oil and Gas Information System** (3270) for each well listed above. (7.12.99)

KR 6. **Cardex** file has been updated for each well listed above.

KR 7. Well **file labels** have been updated for each well listed above. (new system)

KR 8. Changes have been included on the monthly "Operator, Address, and Account Changes" **memo** for distribution to Trust Lands, Sovereign Lands, UGS, Tax Commission, etc. (8.2.99)

DR 9. A folder has been set up for the **Operator Change file**, and a copy of this page has been placed there for reference during routing and processing of the original documents.

ons\wpdocs\forms\operchng

- OVER -

OPERATOR CHANGE WORKSHEET (continued) - Initial each item when completed. Write N/A if item is not applicable.

ENTITY REVIEW

DR 1. (r649-8-7) **Entity assignments have been reviewed** for all wells listed above. Were entity changes made? (yes/no) ____ If entity assignments were changed, attach copies of Form 6, Entity Action Form.

DR 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been **notified** through normal procedures of entity changes.

BOND VERIFICATION - (FEE WELLS ONLY)

DR 1. (r649-3-1) The **NEW** operator of any fee lease well listed above has furnished a proper bond. (Rec'd 6.11.99 #JZ7777)

DR 2. A **copy of this form** has been placed in the new and former operator's bond files.

DR 3. The **FORMER** operator has requested a release of liability from their bond (yes/no) ____, as of today's date 6.11.99. If yes, division response was made to this request by letter dated Aug. 12, 1999

LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY

DR 1. Copies of documents have been sent on 8/12/99 to Ed Bonner at Trust Lands for changes involving State leases, in order to remind that agency of their responsibility to review for proper bonding.

JHA 2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated _____ 19 __, of their responsibility to notify all interest owners of this change.

FILMING

KS 1. All attachments to this form have been **microfilmed.** Today's date: 9-29-99.

FILING

__ 1. **Copies** of all attachments to this form have been filed in each **well file.**

__ 2. The **original of this form**, and the **original attachments** are now being filed in the Operator Change file.

COMMENTS

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Uintah and Ouray Agency
P. O. Box 130
988 South 7500 East
Fort Duchesne, Utah 84026-0130
Phone: (435) 722-4300 Fax: (435)722-2323

IN REPLY REFER TO:
Minerals and Mining
Phone: (435) 722-4310
Fax: (435) 722-2809

September 21, 1999

Coastal Oil & Gas Corporation
Attn: Don Spicer
Nine Greenway Plaza
Houston, TX 77046-0995

Santa Fe Snyder Corporation
Attn: Phyllis Sobotik
1625 Broadway, #2200
Denver, CO 80202

Dear Mr. Spicer and Mrs. Sobotik:

We have received copies of Sundry Notices, dated August 8, 1999, informing this office of a change of operator for the following wells:

OPERATOR - FROM: Santa Fe Syder Corporation
TO: Coastal Oil & Gas Corporation

Legal Description	Lease No.	Well No.	Location
Sec. 13-T4S-R1E	14-20-H62-4376	Ute Tribal 13-1 ✓	NENE
Sec. 15-T4S-R1E	14-20-H62-4527	Ute Tribal 15-1 ✓	SWSW
Sec. 16-T4S-R1E	14-20-H62-4526	Ute Tribal 16-1 ✓	SESE
Sec. 21-T4S-R1E	14-20-H62-4418	Ute Tribal 21-1 ✓	NENE
		Ute Tribal 21-W-1 ✓	NENE
		Ute Tribal 21-2H ✓	SENE
		Ute Tribal 21-3B ✓	NWNE
		Ute Tribal 21-4G ✓	SWNE
		Ute Tribal 21-5C ✓	NENW
Sec. 22-T4S-R1E	14-20-H62-4528	Ute Tribal 22-1 ✓	NWNW
		Ute Tribal 22-2 ✓	SWNW
		Ute Tribal 22-4I ✓	NESE
Sec. 23-T4S-R1E	14-20-H62-4529	Ute Tribal 23-1 ✓	SWSE
Sec. 25-T4S-R1E	14-20-H62-4417	Ute Tribal 25-1 ✓	SWNW
		Ute Tribal 25-F ✓	SENW
Sec. 26-T4S-R1E	14-20-H62-4386	Ute Tribal 26-1 ✓	SENE
		Ute Tribal 26-1C ✓	NENE
		Ute Tribal 26-3G ✓	SENE
		Ute Tribal 26-5J ✓	NWSE
		Ute Tribal 27-1 ✓	NWNW

Division of Oil, Gas and Mining

ROUTING:

1-GLH	4-KAS ✓
2-CDW	5-SJ
3-JLT	6-FILE

OPERATOR CHANGE WORKSHEET

Check each listed item when completed. Write N/A if item is not applicable.

Change of Operator (Well Sold) Designation of Agent

X Operator Name Change Only Merger

The operator of the well(s) listed below has changed, **effective**: **9-9-99**

TO:(New Operator) COASTAL OIL & GAS CORP
Address: P. O. BOX 1148
VERNAL, UT 84078
Phone: 1-(435)-871-7023
Account No. N

FROM:(Old Operator) SANTA FE SNYDER CORP
Address: P. O. BOX 129
BAGGS, WY 82321
Phone: 1-(307)-383-2800
Account No. N2000

WELL(S): **CA Nos.** _____ or _____ **Unit**

Name: UTE 13-1	API: 43-047-31846	Entity: 10931	S 13	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 15-1	API: 43-047-31936	Entity: 11218	S 15	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 16-1	API: 43-047-31933	Entity: 11219	S 16	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 21-1	API: 43-047-31821	Entity: 10818	S 21	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 21-2H	API: 43-047-32570	Entity: 11725	S 21	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 21-3B	API: 43-047-32571	Entity: 11770	S 21	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 21-4G	API: 43-047-32664	Entity: 11766	S 21	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 21-5C	API: 43-047-32690	Entity: 11860	S 21	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 22-1	API: 43-047-31934	Entity: 11220	S 22	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 22-2	API: 43-047-32097	Entity: 11343	S 22	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 22-4I	API: 43-047-32572	Entity: 11748	S 22	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 23-1	API: 43-047-31935	Entity: 12010	S 23	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 25-1	API: 43-047-31848	Entity: 12010	S 25	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 25-F	API: 43-047-32809	Entity: 12010	S 25	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 26-1	API: 43-047-31822	Entity: 12010	S 26	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 26-1C	API: 43-047-31738	Entity: 12010	S 26	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 26-3G	API: 43-047-32667	Entity: 12010	S 26	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 26-5J	API: 43-047-32574	Entity: 12010	S 26	T 04S	R 01E	Lease: INDIAN
Name: UTE TRIBAL 27-1	API: 43-047-31947	Entity: 2900	S 27	T 04S	R 01E	Lease: INDIAN
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____

OPERATOR CHANGE DOCUMENTATION

YES 1. A **pending operator change file** has been set up.

N/A 2. (R649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator on_____.

N/A 3. (R649-8-10) Sundry or other legal documentation has been received from the **NEW** operator on _____.

YES 4. The new company has been looked up in the **Department of Commerce, Division of Corporations Database** if the new operator above is not currently operating any wells in Utah. Is the operator registered with the State? **Yes**/No If yes, the company file number is 049324 . If no, Division letter was mailed to the new operator on_____.

-OVER-

YES 5. **Federal and Indian Lease Wells.** The BLM or the BIA has approved the merger, name change or **operator change** for all wells listed above involving Federal or Indian leases on 9-21-99.

N/A 6. **Federal and Indian Units.** The BLM or the BIA has approved the successor of unit operator for all wells listed above involving unit operations on _____.

N/A 7. **Federal and Indian Communitization Agreements ("CA").** The BLM or the BIA has approved the operator change for all wells listed above involved in the CA on _____.

N/A 8. **Underground Injection Control ("UIC") Program.** The Division has approved UIC Form 5, Transfer of Authority to Inject, for the enhanced/secondary recovery unit/project and/or for the water disposal well(s) listed above.

YES 9. Changes have been entered in the **Oil and Gas Information System** for each well listed on 3-3-00.

YES 10. Changes have been included on the **Monthly Operator Change letter** on 3-3-00.

STATE BOND VERIFICATION

N/A 1. State Well(s) covered by Bond No. _____.

FEE WELLS - BOND VERIFICATION / LEASE INTEREST OWNER NOTIFICATION

N/A 1. (R649-3-1) The **NEW** operator of any fee lease well(s) listed above has furnished a proper bond.

N/A 2. The **FORMER** operator has requested a release of liability from their bond as of todays date _____? If yes, Division response was made to this request by letter dated _____. (see bond file).

N/A 3. (R649-2-10) The **Former** operator of any Fee lease wells listed above has been contacted and informed by letter dated _____, of their responsibility to notify all interest owners of this change.

N/A 4. Bond information added to **RBDMS** on_____.

N/A 5. Fee wells attached to bond in **RBDMS** on_____.

FILMING

____ 1. All attachments to this form have been **microfilmed** on 3-26-01.

FILING

____ 1. **Originals/Copies** of all attachments pertaining to each individual well have been filed in each **well file**.

____ 2. The **original of this form** has been filed in the operator file and a copy in the old operator file.

COMMENTS

_____

_____

_____

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER

8. WELL NAME and NUMBER: Exhibit "A"

2. NAME OF OPERATOR: El Paso Production Oil & Gas Company

9. API NUMBER:

3. ADDRESS OF OPERATOR: 8 South 1200 East CITY Vernal STATE Utah ZIP 84078

PHONE NUMBER: 435-789-4433

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY:

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: _____	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
_____	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☒ OTHER: Name Change
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

As a result of the merger between The Coastal Corporation and a wholly owned subsidary of El Paso Energy Corporation, the name of Coastal Oil & Gas Corporation has been changed to El Paso Production Oil & Gas Company effective March 9, 2001.

See Exhibit "A"

Bond # 400JU0708

Coastal Oil & Gas Corporation

NAME (PLEASE PRINT) John T. Elzner TITLE Vice President

SIGNATURE _____ DATE 06-15-01

El Paso Production Oil & Gas Company

NAME (PLEASE PRINT) John T. Elzner TITLE Vice President

SIGNATURE _____ DATE 06-15-01

(This space for State use only)

RECEIVED

JUN 19 2001

DIVISION OF
OIL, GAS AND MINING

(5/2000) (See Instructions on Reverse Side)

State of Delaware

Office of the Secretary of State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "COASTAL OIL & GAS CORPORATION", CHANGING ITS NAME FROM "COASTAL OIL & GAS CORPORATION" TO "EL PASO PRODUCTION OIL & GAS COMPANY", FILED IN THIS OFFICE ON THE NINTH DAY OF MARCH, A.D. 2001, AT 11 O'CLOCK A.M.

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

0610204 8100

010162788

AUTHENTICATION: 1061007

DATE: 04-03-01

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

COASTAL OIL & GAS CORPORATION (the "Company"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, DOES HEREBY CERTIFY:

FIRST: That the Board of Directors of the Company, by the unanimous written consent of its members, filed with the minutes of the Board, adopted a resolution proposing and declaring advisable the following amendment to the Certificate of Incorporation of the Company:

RESOLVED that it is deemed advisable that the Certificate of Incorporation of this Company be amended, and that said Certificate of Incorporation be so amended, by changing the Article thereof numbered "FIRST." so that, as amended, said Article shall be and read as follows:

"FIRST. The name of the corporation is El Paso Production Oil & Gas Company."

SECOND: That in lieu of a meeting and vote of stockholders, the stockholders entitled to vote have given unanimous written consent to said amendment in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendment was duly adopted in accordance with the applicable provisions of Sections 242 and 228 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, said COASTAL OIL & GAS CORPORATION has caused this certificate to be signed on its behalf by a Vice President and attested by an Assistant Secretary, this 9th day of March 2001.

COASTAL OIL & GAS CORPORATION

David L. Siddall
Vice President

Attest:

Margaret E. Roark, Assistant Secretary

RECEIVED

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 11:00 AM 03/09/2001
010118394 - 0610204

JUN 19 2001

DIVISION OF
OIL, GAS AND MINING

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

In Reply Refer To:
3106
UTSL-065841
(UT-924)

JUL 10 2001

NOTICE

El Paso Production Oil & Gas Company	:	Oil and Gas
Nine Greenway Plaza	:	
Houston TX 77046-0095	:	

Name Change Recognized

Acceptable evidence has been received in this office concerning the name change of Coastal Oil & Gas Corporation into El Paso Production Oil & Gas Company with El Paso Production Oil & Gas Company being the surviving entity.

For our purposes, the name change is recognized effective March 9, 2001.

The oil and gas lease files identified on the enclosed exhibit have been noted as to the name change. The exhibit was compiled from a list of leases obtained from our computer program. We have not abstracted the lease files to determine if the entities affected by this name change hold an interest in the leases identified nor have we attempted to identify leases where the entitities are the operator on the ground maintaining no vested recorded title or operating rights interests. We will be notifying the Minerals Management Service and all applicable Bureau of Land Management offices of the change by a copy of this notice. If additional documentation for changes of operator are required by our Field Offices, you will be contacted by them.

If you identify additional leases in which the entities maintain an interest, please contact this office and we will appropriately document those files with a copy of this Notice.

Due to the name change, the name of the principal/obligor on the bond is required to be changed from Coastal Oil & Gas Corporation to El Paso Production Oil & Gas Company. You may accomplish this either by consent of surety rider on the original bond or a rider to the original bond. The bonds are held in Wyoming and Colorado.

Opolonia L. Abeyta
Acting Chief, Branch of
Minerals Adjudication

Enclosure
1. Exhibit of Leases (1 pp)

cc: Moab Field Office
Vernal Field Office
MMS, Reference Data Branch, MS3130, PO Box 5860, Denver CO 80217
State of Utah, DOGM, Attn: Jim Thompson (Ste. 1210), Box 145801, SLC UT 84114
Teresa Thompson (UT-922)
Joe Incardine (UT-921)

File Copy

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Uintah and Ouray Agency
P. O. Box 130
988 South 7500 East
Fort Duchesne, Utah 84026-0130
Phone: (435) 722-4300 Fax: (435) 722-2323

IN REPLY REFER TO:
Minerals and Mining
Phone: (435) 722-4310
Fax: (435) 722-2809

August 16, 2001

El Paso Production Company
Attn: Elizabeth R. Williams
Nine Greenway Plaza
Houston, TX 77046-0995

Dear Mrs. Williams:

We are in receipt of the corporate documentation for the name change from Coastal Oil & Gas Corporation to El Paso Production Oil and Gas Company.

All documents appear to be in order, and the approval is hereby authorized to change all records, including change of operator of certain oil and gas wells, Rights-of-Way, Communitization Agreements, Oil and Gas Leases, Exploration and Development Agreements, etc. from Coastal Oil & Gas Corporation to "El Paso Production Oil and Gas Company".

Approval of this name change is August 16, 2001, but effective on March 9, 2001. If you have any questions, please do not hesitate to contact this office.

Respectfully,

Charles H Cameron

Acting Superintendent

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING		
1. GLH		4-KAS
2. CDW ✓		5-LP ✓
3. JLT		6-FILE

Enter date after each listed item is completed

Change of Operator (Well Sold) — Designation of Agent

Operator Name Change (Only) — **X** **Merger**

The operator of the well(s) listed below has changed, effective: **3-09-2001**

FROM: (Old Operator):
COASTAL OIL & GAS CORPORATION
Address: 9 GREENWAY PLAZA STE 2721
HOUSTON, TX 77046-0995
Phone: 1-(713)-418-4635
Account N0230

TO: (New Operator):
EL PASO PRODUCTION OIL & GAS COMPANY
Address: 9 GREENWAY PLAZA STE 2721 RM 2975B
HOUSTON, TX 77046-0995
Phone: 1-(832)-676-4721
Account N1845

CA No. **Unit:**

WELL(S)

NAME		API NO	ENTITY NO	SEC TWN RNG	LEASE TYPE	WELL TYPE	WELL STATUS
MCFARLANE 1-4D6	(CA 85C713)	43-013-31074	10325	04-04S-06W	INDIAN	OW	P
PETERSON 1-5D6	(CA 85C714)	43-013-31075	10311	05-04S-06W	INDIAN	OW	P
UTE 1-6D6		43-013-31696	12058	06-04S-06W	INDIAN	OW	P
UTE 1-11D6		43-013-30482	6415	11-04S-06W	INDIAN	OW	P
UTE 1-15D6	(CA 77377)	43-013-30429	10958	15-04S-06W	INDIAN	OW	P
UTE TRIBAL P-1	(CA 9C-145)	**43-047-30190**	4536	03-02S-01E	INDIAN	OW	S
ESTHER ARHI 1	(CA 9C-129)	43-047-30205	590	05-02S-01E	INDIAN	OW	P
UTE TRIBAL 1-18B1E	(CA 9C-212)	43-047-30969	9135	18-02S-01E	INDIAN	OW	P
UTE 13-1		43-047-31846	10931	13-04S-01E	INDIAN	OW	P
UTE 15-1		43-047-31936	11218	15-04S-01E	INDIAN	OW	S
UTE 16-1		43-047-31933	11219	16-04S-01E	INDIAN	OW	P
UTE 21-1		43-047-31821	10818	21-04S-01E	INDIAN	OW	P
UTE TRIBAL 21-2-H		43-047-32570	11725	21-04S-01E	INDIAN	OW	P
UTE TRIBAL 21-3-B		43-047-32571	11770	21-04S-01E	INDIAN	OW	P
UTE TRIBAL 21-4-G		43-047-32664	11766	21-04S-01E	INDIAN	OW	S
UTE TRIBAL 21-5-C		43-047-32690	11860	21-04S-01E	INDIAN	OW	S
UTE 22-1		43-047-31934	11220	22-04S-01E	INDIAN	OW	S
UTE 22-2		43-047-32097	11343	22-04S-01E	INDIAN	OW	P
UTE TRIBAL 22-4-I		43-047-32572	11748	22-04S-01E	INDIAN	OW	P
UTE TRIBAL 14-23		43-047-33834	99999	23-04S-01E	INDIAN	OW	APD

OPERATOR CHANGES DOCUMENTATION

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 06/19/2001
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 06/19/2001
3. The new company has been checked through the **Department of Commerce, Division of Corporations Database on:** 06/21/2001
4. Is the new operator registered in the State of Utah: YES Business Number: 608186-0143

5. If **NO**, the operator was contacted contacted on: N/A

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the (merger, name change, or operator change for all wells listed on Federal or Indian leases on: 08/16/2001

7. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: 07/10/2001

8. **Federal and Indian Communization Agreements ("CA"):** The BLM or the BIA has approved the operator change for all wells listed involved in a CA on: 08/16/2001

9. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 08/30/2001

2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 08/30/2001

3. Bond information entered in RBDMS on: N/A

4. Fee wells attached to bond in RBDMS on: N/A

STATE BOND VERIFICATION:

1. State well(s) covered by Bond No.: N/A

FEDERAL BOND VERIFICATION:

1. Federal well(s) covered by Bond No.: N/A

INDIAN BOND VERIFICATION:

1. Indian well(s) covered by Bond No.: 103601473

FEE WELLS - BOND VERIFICATION/LEASE INTEREST OWNER NOTIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond No: N/A

2. The **FORMER** operator has requested a release of liability from their bond on: N/A
   The Division sent response by letter on: N/A

3. (R649-2-10) The **FORMER** operator of the Fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: _____

FILMING:

1. All attachments to this form have been **MICROFILMED** on: _____

FILING:

1. **ORIGINALS/COPIES** of all attachments pertaining to each individual well have been filled in each well file on: _____

COMMENTS: Master list of all wells involved in operator change from Coastal Oil & Gas Corporation to El Paso Production Oil and Gas Company shall be retained in the "Operator Change File".

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. DJJ
2. CDW

Change of Operator (Well Sold) **X Operator Name Change**

The operator of the well(s) listed below has changed, effective: **7/1/2006**

FROM: (Old Operator):	**TO:** (New Operator):
N1845-El Paso Production O&G Company	N3065-El Paso E&P Company, LP
1001 Louisiana Street	1001 Louisiana Street
Houston, TX 77002	Houston, TX 77002
Phone: 1 (713) 420-2300	Phone: 1 (713) 420-2131
CA No.	**Unit:**

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 7/5/2006
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 7/5/2006
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 3/30/2006
4. Is the new operator registered in the State of Utah: YES Business Number: 2114377-0181
5. If **NO**, the operator was contacted contacted on:

6a. (R649-9-2)Waste Management Plan has been received on: requested 7/18/06

6b. Inspections of LA PA state/fee well sites complete on: ok

6c. Reports current for Production/Disposition & Sundries on:

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA not yet
8. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: not yet
9. **Federal and Indian Communization Agreements ("CA"):** The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 7/14/2006

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 7/19/2006
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 7/19/2006
3. Bond information entered in RBDMS on: 7/19/2006
4. Fee/State wells attached to bond in RBDMS on: 7/19/2006
5. Injection Projects to new operator in RBDMS on: 7/19/2006
6. Receipt of Acceptance of Drilling Procedures for APD/New on: 7/5/2006

BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: 103601420
2. Indian well(s) covered by Bond Number: 103601473
3. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 400JU0708

a. The **FORMER** operator has requested a release of liability from their bond on: n/a applicable wells moved

The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

4. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 7/20/2006

COMMENTS:

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: MULTIPLE LEASES

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER _____

8. WELL NAME and NUMBER: SEE ATTACHED

2. NAME OF OPERATOR: EL PASO PRODUCTION OIL AND GAS COMPANY N1845

9. API NUMBER:

3. ADDRESS OF OPERATOR: 1339 EL SEGUNDO AVE NE ALBUQUERQUE NM 87113

PHONE NUMBER: (505) 344-9380

10. FIELD AND POOL, OR WILDCAT: SEE ATTACHED

4. LOCATION OF WELL

FOOTAGES AT SURFACE: SEE ATTACHED

COUNTY: UINTAH & DUCHESNE

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: _____	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion: _____	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER: CHANGE OF OPERATOR
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

PLEASE BE ADVISED THAT EL PASO PRODUCTION OIL AND GAS COMPANY (CURRENT OPERATOR) HAS TRANSFERRED ITS OPERATORSHIP TO EL PASO E&P COMPANY, L.P. (NEW OPERATOR) EFFECTIVE ~~JUNE 30~~, July 1, 2006 AND THAT EL PASO E&P COMPANY, L.P. IS CONSIDERED TO BE THE NEW OPERATOR OF THE ATTACHED WELL LOCATIONS.

EL PASO E&P COMPANY, L.P. IS RESPONSIBLE UNDER THE TERMS AND CONDITIONS OF THE LEASE(S) FOR THE OPERATIONS CONDUCTED UPON LEASED LANDS. BOND COVERAGE IS PROVIDED BY THE STATE OF UTAH STATEWIDE BLANKET BOND NO. 400JU0705, BUREAU OF LAND MANAGEMENT NATIONWIDE BOND NO. 103601420, AND BUREAU OF INDIAN AFFAIRS NATIONWIDE BOND NO. 103601473.

El Paso E & P Company, L. P. N3065
1001 Louisiana
Houston, TX 77002

William M. Griffin
William M. Griffin, Sr. Vice President

NAME (PLEASE PRINT) CHERYL CAMERON TITLE AUTHORIZED REGULATORY AGENT

SIGNATURE Cheryl Cameron DATE 6/20/2006

(This space for State use only)

APPROVED 7/19/06
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

(5/2000)

RECEIVED
JUL 05 2006
DIV. OF OIL, GAS & MINING

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING
1. DJJ
2. CDW

X - Change of Operator (Well Sold) Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective: **3/1/2008**

FROM: (Old Operator):	**TO:** (New Operator):
N3065-El Paso E&P Company, LP	N3460-Finley Resources, Inc.
1099 18th St, Suite 1900	1308 Lake St, Suite 200
Denver, CO 80202	Fort Worth, TX 76102
Phone: 1 (303) 291-6400	Phone: 1 (817) 231-8729

CA No. **Unit:**

WELL NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
SEE ATTACHED LIST								

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on 3/10/2008
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 3/10/2008
3. The new company was checked on the **Department of Commerce, Division of Corporations Database on:** 4/28/2008
4a. Is the new operator registered in the State of Utah: yes Business Number: 6911056-0143
4b. If **NO**, the operator was contacted contacted on:
5a. (R649-9-2)Waste Management Plan has been received on: IN PLACE
5b. Inspections of LA PA state/fee well sites complete on: n/a
5c. Reports current for Production/Disposition & Sundries on:
6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM n/a BIA not yet
7. **Federal and Indian Units:**
   The BLM or BIA has approved the successor of unit operator for wells listed on: not yet
8. **Federal and Indian Communization Agreements ("CA"):**
   The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
9. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 3/13/2008

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 4/28/2008
2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 4/28/2008
3. Bond information entered in RBDMS on: n/a
4. Fee/State wells attached to bond in RBDMS on: n/a
5. Injection Projects to new operator in RBDMS on:
6. Receipt of Acceptance of Drilling Procedures for APD/New on: n/a

BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: n/a
2. Indian well(s) covered by Bond Number: RLB0011263
3a. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number n/a
3b. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on:

LEASE INTEREST OWNER NOTIFICATION:

4. (R649-2-10) The **NEW** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

COMMENTS:

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER _____

8. WELL NAME and NUMBER: Various Leases

2. NAME OF OPERATOR: EL PASO E&P COMPANY, L.P. N3065

9. API NUMBER: Attached (2 lists)

3. ADDRESS OF OPERATOR: 1099 18TH ST, STE 1900 CITY DENVER STATE CO ZIP 80202

PHONE NUMBER: (303) 291-6400

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY: Uintah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: _____	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☑ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
_____	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER: _____
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

PLEASE BE ADVISED THAT AS A RESULT OF SALE, EL PASO E&P COMPANY, L.P. WILL BE TRANSFERING OPERATORSHIP OF THE ATTACHED REFERENCED WELLS TO FINLEY RESOURCES INC. THE EFFECTIVE DATE OF CHANGE OF OPERATORSHIP WILL BE MARCH 1, 2008.

FINLEY RESOURCES INC N3460
1308 LAKE ST. STE 200
FORT WORTH, TX 76102

COMPANY BOND NUMBER: RLB 0011263

NAME: FINLEY RESOURCES INC.

TITLE BY: BRENT D TALBOT, PRESIDENT (FINLEY)

SIGNATURE: B D Talbot

DATE: 2-28-2008

NAME (PLEASE PRINT) El Paso E&P Company, L.P. TITLE Thomas M. Hart, Sr. Vice President

SIGNATURE _____ DATE 2/28/2008

(This space for State use only)

APPROVED 4/28/08
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

RECEIVED
MAR 10 2008
DIV. OF OIL, GAS & MINING

(5/2000) (See Instructions on Reverse Side)

El Paso to Finley Resources
Leland Bench Field (sorted by unit and API #)

well_name	sec	twp	rng	api	entity	l_type	well	stat	unit_name	qtr_qtr	l_num
UTE 21 1	21	040S	010E	4304731821	10818	Indian	OW	P		NENE	14-20-H62-4900
UTE 13-1 C	13	040S	010E	4304731846	10931	Indian	OW	P		NENE	14-20-H62-4896
UTE TRIBAL 16-1	16	040S	010E	4304731933	11219	Indian	OW	S		SESE	14-20-H62-4899
UTE TRIBAL 27-1	27	040S	010E	4304731942	11221	Indian	OW	P		NWNW	14-20-H62-4906
UTE TRIBAL 22-2	22	040S	010E	4304732097	11343	Indian	OW	S		SWNW	14-20-H62-4901
UTE TRIBAL 21-2-H	21	040S	010E	4304732570	11725	Indian	OW	P		SENE	14-20-H62-4900
UTE TRIBAL 21-3-B	21	040S	010E	4304732571	11770	Indian	OW	P		NWNE	14-20-H62-4900
UTE TRIBAL 22-4-I	22	040S	010E	4304732572	11748	Indian	OW	P		NESE	14-20-H62-4901
UTE TRIBAL 21-4-G	21	040S	010E	4304732664	11766	Indian	OW	S		SWNE	14-20-H62-4900
UTE TRIBAL 4-25	25	040S	010E	4304733541	13041	Indian	OW	P		NWNW	14-20-H62-4904
UTE TRIBAL 7-25	25	040S	010E	4304733542	12999	Indian	OW	P		SWNE	14-20-H62-4904
UTE TRIBAL 12-25	25	040S	010E	4304733544	12990	Indian	OW	S		NWSW	14-20-H62-4904
UTE TRIBAL 11-25	25	040S	010E	4304733551	12989	Indian	OW	P		NESW	14-20-H62-4904

4/28/2008

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: 14-20-H62-4376

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Indian Tribe

7. UNIT or CA AGREEMENT NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER

8. WELL NAME and NUMBER: Ute Tribal 13-1 C

2. NAME OF OPERATOR: Finley Resources, Inc

9. API NUMBER: 4304731846

3. ADDRESS OF OPERATOR: 1308 Lake Street CITY Fort Worth STATE TX ZIP 76102

PHONE NUMBER: (817) 231-8735

10. FIELD AND POOL, OR WILDCAT: Leland Bench

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 330 N, 330 E

COUNTY: Unitah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 13 4S 1E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☑ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☑ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER:
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Add and acidize/frac perfs 7127-32, 7050-60, 6920-24, 6934-38,6650-60,6578-85,6540-50,6134-42,5135-45 (Green River). Commingle with existing Green River perfs.

COPY SENT TO OPERATOR
Date: SEP 12 2011
Initials: KS

RECEIVED
AUG 29 2011
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) April Wilkerson TITLE Reg & Enviro Analyst

SIGNATURE April Wilkerson DATE 8/22/2011

(This space for State use only)

Accepted by the
Utah Division of
Oil, Gas and Mining
Date: 9/7/2011
By: (See Instructions on Reverse Side)

Federal Approval Of This
Action Is Necessary

(5/2000)

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: 14-20-H62-4376

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute Indian Tribe

7. UNIT or CA AGREEMENT NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER

8. WELL NAME and NUMBER: Ute 13-1C

2. NAME OF OPERATOR: Finley Resources, Inc

9. API NUMBER: 4304731846

3. ADDRESS OF OPERATOR: 1308 Lake Street CITY Fort Worth STATE TX ZIP 76102

PHONE NUMBER: (817) 231-8735

10. FIELD AND POOL, OR WILDCAT: Leland Bench

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 330 N, 330 E

COUNTY: Unitah

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENE 13 4S 1E

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start: _____	☐ ALTER CASING	☑ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☑ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion: 3/24/2012	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☐ OTHER: _____
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Two Stage Fracture Treatment with total of 87,627 gal of foam fluid, 151,340 lbs of sand, and 2086.4 bbl of fluid targeting perforations of 6920-6924, 6934-6938, 7050-7132, 5135-5145.

RECEIVED
JUL 03 2012
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) April Wilkerson TITLE Reg & Enviro Analyst

SIGNATURE April Wilkerson DATE 6/27/12

(This space for State use only)

(5/2000) (See Instructions on Reverse Side)

MAVERICK
STIMULATION COMPANY, LLC

88 INVERNESS CIRCLE E. G-101
ENGLEWOOD, CO 80112
PH (303) 757-7789 FAX (303) 757-7610

TREATMENT REPORT - PAGE 1

Date: 24-Mar-12

Well Name:	Location:	Customer Rep:	Field Order #
UTE TRIBAL 13-1C	SEC 13 - T4S - R1E	JOHN MCLAUGHLIN	14100A

Stage:	Formation:	Treat Via:	Allowable Pressure Tbg	Allowable Pressure Csg	Well Type:
1ST	GREEN RIVER	TUBING	6,000		OIL

County:	State:	Well Age:	PackerType:	PackerDepth:	Csg Size:
UINTAH	UT	REWORK		6,900	5.5

Type Of Service: XL GELLED WATER FRAC

Customer Name: FINLEY RESOURCES, INC

Address: CLAY O'NEIL
1308 LAKE STEET
FT. WORTH TX 76102

Csg Depth:	Tbg Size:	Tbg Depth:	Liner Size:
		6,900	

Liner Depth:	Liner Top:	Liner Bot:	Total Depth:

Open Hole:	Csg Vol:	BHT:	
	57.7		

Perf Depths:		Perfs:	TotalPerfs:
6920	2924	16	92
6934	6938	16	
7050	7060	40	
7127	7132	20	
		0	
		0	
		0	

Remarks:
SAFETY MEETING / PRIMEUP PRESSURE TEST TO 6000 PSI.
PUMPED 96,420 LBS20/40 OTTOWA
BREAK DOWN 3050 PSI ISIP =5500 PSI, 5 MIN=
FRAC GR .1.2
5,000 LBS 20/40 IN HOPPER
11 BBLS UNDER FLUSHED

TIME	INJECTION RATE FLUID	INJECTION RATE N2/CO2	PRESSURE STP	PRESSURE ANNULUS	REMARKS	PROP (lbs)	FOAM/FLD (gls)	FLUID (bbls)
6:55	0.0		0	-3825	SAFETY MEETING	0	0	0.0
7:16	0.0		-1	-12	PRIME UP PRESS TEST TO 6000 PSI	0	0	0.0
7:27	12.0		29	-17	ST PUMP-IN	0	3,570	85.0
7:29	8.2		955	-17	HOLE LOADED 40 BBLS	0	0	0.0
7:30	10.8		3028	-17	BREAKDOWN @ 3050 PSI	0	0	0.0
7:32	25.1		4081	-18	ST PAD	0	8,400	200.0
7:41	25.2		4357	-19	ST 1# TO 5# 20/40 OTTOWA	96,420	32,140	765.0
8:16	26.7		4837	-18	ST FLUSH	0	1,932	46.0
8:20	0.0		5659	-17	CUT FLUID - ISIP = 5500 PSI	0	0	0.0
8:26	0.0		4978	-16	5 MIN = 4970 PSI	0	0	0.0
					Total:	96,420	46,042	1,096.0

Summary

Max Fl. Rate	Avg Fl. Rate	Max Psi	Avg Psi
26.7	15.4	6,097	4,029

Customer Acknowledgement:

Service Rating:
☐ Satisfactory
☐ Unsatisfactory

Treater: STAN D.

PRODUCTS USED
CL-57, MAV-3, NE-6, BREAKER 503L, MAVCIDE II, MAVLINK BW, B-2, GB-3 INCAP,

MAVERICK STIMULATION COMPANY, LLC
88 INVERNESS CIRCLE E. G-101
ENGLEWOOD, CO 80112
PH (303) 757-7789 FAX (303) 757-7610

TREATMENT REPORT - PAGE 1

Date: 25-Mar-12

Well Name:	Location:	Customer Rep:	Field Order #
UTE TRIBAL 13-1C	SEC 13 - T4S - R1E	JOHN MCLAUGHLIN	14100B

Stage:	Formation:	Treat Via:	Allowable Pressure Tbg	Allowable Pressure Csg	Well Type:
2ND	GREEN RIVER	TUBING	6,000		OIL

County:	State:	Well Age:	PackerType:	PackerDepth:	Csg Size:
UINTAH	UT	REWORK		5,100	5.5

Type Of Service: XL GELLED WATER FRAC

Customer Name: FINLEY RESOURCES, INC

Address: CLAY O'NEIL
1308 LAKE STEET
FT. WORTH TX 76102

Csg Depth:	Tbg Size:	Tbg Depth:	Liner Size:
	3.5		

Liner Depth:	Liner Top:	Liner Bot:	Total Depth:

Open Hole:	Csg Vol:	BHT:	
	50		

Perf Depths:		Perfs:	TotalPerfs:
5135	5145	40	40
		0	
		0	
		0	
		0	
		0	
		0	

Remarks: SAFETY MEETING / PRIMEUP PRESSURE TEST TO 6000 PSI.
PUMPED 5,000 LBS 20/40 OTTOWA
PUMPED 49,920 LBS16/30 TEXAS GOLD
BREAK DOWN 4470 PSI ISIP =1450 PSI, 5 MIN=1310 PSI,
FRAC GR .72

TIME	INJECTION RATE FLUID	INJECTION RATE N2/CO2	PRESSURE STP	PRESSURE ANNULUS	REMARKS	PROP (lbs)	FOAM/FLD (gls)	FLUID (bbls)
7:11	0.0		1	1	SAFETY MEETING	0	0	0.0
13:11	0.0		406	85	PRIME UP PRESS TEST TO 6000 PSI	0	0	0.0
13:16	5.6		35	84	ST PUMP-IN	0	4,200	100.0
13:20	31.9		3263	78	ST PAD	0	10,500	250.0
13:23	31.8		3461	76	ST SAND SCOUR	420	840	20.0
13:28	31.7		3510	76	ST .5# TO 4# 16/30 TEXAS GOLD	54,500	24,222	577.0
13:46	31.9		3333	70	ST FLUSH	0	1,823	43.4
13:48	0.0		1468	70	CUT FLUID - ISIP = 1450 PSI	0	0	0.0
13:54	0.0		1313	-3010	5 MIN = 1310 PSI	0	0	0.0
					Total:	54,920	41,585	990.4

Summary

Max Fl. Rate	Avg Fl. Rate	Max Psi	Avg Psi
31.9	22.2	4,644	2,948

Customer Acknowledgement: _____

Service Rating:
☐ Satisfactory
☐ Unsatisfactory

Treater: STAN D.

PRODUCTS USED
CL-57, MAV-3, NE-6, BREAKER 503L, MAVCIDE II, MAVLINK BW,

Finley Resources, Inc.

Ute Tribal 13-1C
Duchesne County, Utah
Casing Schematic